HERC'S outpatient average cost dataset for VA care: Fiscal Years 2000-2003

4th Edition

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Note to Readers

In 2003, we published a supplement in Medical Care Research and Review that included papers based in part on the work presented in this manual. Readers are encouraged to cite those papers as the definitive source in future research articles. Copies of the articles are available upon request. The articles include:

Barnett, P. G., and Wagner, T. H. "Department of Veterans Affairs (VA) operates one of the largest integrated health care systems in the United States. Preface," *Med. Care Res. Rev.* 60 (2003) 7S-14S.

Phibbs, C. S., Bhandari, A., Yu, W., and Barnett, P. G. "Estimating the costs of VA ambulatory care," *Med. Care Res. Rev.* 60 (2003) 54S-73S.

TABLES

Chapter 1. Overview

This document describes the HERC Outpatient Cost Files. HERC produces a companion document for the HERC Inpatient Cost Files. These files contain our estimate of the cost of each outpatient encounter reported in the national VA databases since October 1, 1997.[1] The HERC files can be linked to VA utilization databases to find patient demographics, location of care, services provided, and patient diagnosis. These estimates are designed to be useful to researchers and VA managers who need to estimate the relative value of service units delivered by VA providers and programs. The HERC Outpatient Cost files include three different estimates of the resources used in each VA outpatient encounter.

- **HERC Value**. This is the hypothetical reimbursement based on Medicare and other reimbursement methods. VA characterizes the services it provides to outpatients using the Current Procedure Terminology (CPT) coding system.[2] This is the same system that non-VA providers use to bill for their services. We used these codes to estimate a hypothetical payment for each VA outpatient visit. This hypothetical payment is our non-VA measure of relative value. We call this the "HERC value."

- **National Cost Estimate.** The national cost estimate represents the national average cost of the visit, given its CPT codes and clinic type. It is the HERC value adjusted to reflect actual expenditures for outpatient care, as reported in the VA Cost Distribution Report. Adjustments were made so that the sum of the national cost estimates for all VA outpatient visits was equal to the cost that VA incurred in each of 12 categories of ambulatory care. We created the national cost estimate by assuming that all visits to the same type of clinic that involved the same CPT codes have identical cost, regardless of the actual expenses of the medical center. For each type of clinic, the sum of our national cost estimates equals the total VA expenditure of ambulatory care (excluding pharmacy and prosthetics costs).

- **Local Cost Estimate.** The local cost estimate was constructed to represent the local average cost of the visit, given its CPT codes and type of clinic. It is the national cost estimate, adjusted to reflect the actual cost of ambulatory care at the medical center, as reported in the Cost Distribution Report. For each VA medical

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[1] The methods described in this document apply to all years of the HERC Outpatient Cost Files. Due to space constraints, the tables only report the details of the last four years of the HERC Outpatient Cost Files, FY 2000 – FY 2003. Earlier versions of the document, which contain complete details for earlier years of the HERC data, are available on the HERC web page at: http://www.herc.research.med.va.gov/ACM.htm. This web page also has Excel files with data for all years of the HERC Outpatient Cost Files.

[2] CPT codes were developed by the American Medical Association to characterize physician services. Medicare characterizes other healthcare services using the Medicare Common Procedure Coding System (HCPCS). When we refer to CPT codes in this document, we also mean HCPCS codes.

center, the sum of the local cost estimates equals the total CDR expenditure for ambulatory care in that medical center.

This guidebook provides a detailed description of the methods used to prepare these estimates.

Chapter 2 describes the methods we used to calculate VA's cost of care. It describes how we merged VA cost and utilization databases. It also describes how we assigned each type of VA clinic to one of 14 categories of ambulatory care, defined by aggregating accounts in the VA Cost Distribution Report (CDR).

Chapters 3 and 4 describe our methods of estimating the HERC value. When outpatient care is provided in a hospital-based clinic, both the provider and the facility are reimbursed by Medicare. We followed Medicare's methodology to estimate both the provider and facility payments. Provider payments are described in Chapter 3. Facility payments are the subject of Chapter 4.

We chose the Medicare reimbursement method as our primary source of payment rates because Medicare is a national program with a well described payment method that is based on extensive study of the "economic costs," as compared to "accounting costs," of providing services.[3] Medicare pays 22% of the cost of physician services provided in the U.S. Its reimbursement rate also represents costs from the perspective of the healthcare payer.

Because VA provides services that are not covered by Medicare, we supplemented the Medicare fee schedule with other payment methods. Some of the CPT codes used by VA are not normally used to bill for ambulatory care. We made judicious assumptions to estimate the appropriate reimbursement for services represented by these codes.

Chapter 5 is the user's guide. This chapter describes the variables in the HERC dataset. Chapter 6 describes the results of our validation of the HERC datasets.

1.1 Assumptions Made to Estimate Payments and Costs

VA annually provides some 60 million outpatient encounters in hundreds of VA clinics. These visits include 100 million services and procedures, which VA has characterized with upwards of 10,000 different procedure codes. It was not possible for us to directly measure the cost of the individual encounters, or extensively investigate the accuracy of VA coding. Rather, estimating the cost of this care required a number of analytic assumptions. We list our major assumptions here, and describe them more fully in the subsequent pages.

[3] Economic costs are the opportunity costs of production; they may differ from accounting cost. Economic costs represent society's long-run expenses for delivery of care.

1. **All ambulatory care is comprehensively characterized by the CPT codes used in the national VA outpatient events database.** We assumed that the CPT codes recorded in VA outpatient databases accurately reflect the outpatient care VA actually provided and that no additional services were provided by VA.

2. **All CPT codes used by VA represent a service that should be assigned a cost.** Many of the CPT codes used by VA would be rejected by third party payers in the private sector. For example, telephone care, follow-up surgical visits, and services assigned non-specific procedure codes are not covered by Medicare. Rather than taking a payer's perspective, we assumed that every code used by VA represented a service that should be assigned a cost.

3. **Costs are proportionate to payment rates.** We assumed that VA cost of providing ambulatory care was proportionate to the estimated Medicare payment associated with each CPT code. We used Medicare reimbursement schedules, supplemented with selected private sector or other government reimbursement schedules for services not covered by Medicare.

4. **Some of Medicare's reimbursement methods were not appropriate for VA.** We calculated a national average Medicare payment, without applying geographic adjustments for local market wage differentials. We did not use the Medicare-established global payments for surgical services. Instead, we broke these down to a specific payment for each service covered by the global rate, (e.g., we found the separate payments for surgeries and follow-up visits.) We assigned payments to services that would not be reimbursed by Medicare.

5. **Non-standard service codes represent valid costs.** Some CPT codes used by VA are not normally used to prepare outpatient bills in the private sector. These include codes for procedures that are only provided to inpatients, codes that are obsolete, and codes that are not sufficiently specific to be accepted by third party payers. We assumed that these codes represent a service provided by VA. Due to this insufficient data, we were forced to use assumptions to estimate the payments for this care. These additional assumptions are described in Chapters 3 and 4.

6. **Payments should include facility payments.** Because most VA care is provided in a setting that meets the Medicare definition of a facility, we included facility payments. Medicare defines a facility as a hospital based clinic, a skilled nursing facility, a freestanding surgery center, a comprehensive outpatient rehabilitation facility, or a community mental health center.

7. **VA incurs the cost of ambulatory care reported in the Cost Distribution Report.** We used the VA Cost Distribution Report (CDR) to adjust the resulting relative payments to VA total costs at the medical center and national levels. We assumed that patient care costs listed in the CDR were comprehensive and valid. To create our national cost estimates, we assumed that the total national cost of providing VA ambulatory care in each of 11 categories of care was as reported in

the CDR. The same assumption was made for the local, or medical center level aggregation. We didn't adjust the relative payments for three categories of care; there is no outpatient pharmacy data in the VA Outpatient Events file, there were data problems with the prosthetics data, and the unidentified stops do not match to the CDR.

8. **Indirect costs are incurred in proportion to direct costs.** We distributed the indirect cost of ambulatory care reported in the CDR to different types of ambulatory care. We used direct cost as the basis of this distribution.

9. **The CDR distribution of cost between inpatient and outpatient care is accurate at each individual medical center.** To create our local cost estimates, we assumed that the ***total*** cost of ambulatory care at each medical center reported by the CDR was accurate. However, we did not assume that the cost reported in each ***individual*** category of care at each medical center was accurate. The local cost reflects both national and local distribution of costs, as described in Chapter 5.

1.2 Limitations of HERC Cost Estimates

Analysts who use the HERC database need to be aware of the limitations that resulted from our assumptions.

- **No pharmacy utilization, payments, or cost was estimated.** We did not estimate pharmacy costs. Researchers who need this information should turn to the Pharmacy Benefits Management system, or the national Decision Support System (DSS) pharmacy extract.

- **Prosthetics payments may be underreported.** The total costs that VA allocated to outpatient prosthetics greatly exceeded our estimated Medicare reimbursements for the services provided in prosthetics clinic stops. Scaling these hypothetical Medicare payments to match VA costs would have resulted in unreasonable cost estimates for specific services. Thus, we only estimated the hypothetical payment associated with services provided in prosthetics "clinics." Our national and local estimates of prosthetic clinics' costs are simply a restatement of these payments. HERC has obtained a summary of the CPT codes used by the National Prosthetics Patient Database. A review of these codes seems to indicate that many of the items dispensed by the Prosthetics Service are dispensed in clinic stops associated with other VA services. HERC is currently investigating this issue.

- **HERC values do not necessarily equate to actual VA costs, practice patterns, or productivity.** We estimated economic values for each outpatient encounter. This estimate is useful for studies that need an estimate of product value from the payer's perspective such as Medicare. The HERC value does not necessarily reflect actual VA expenditures, nor does it reflect the effect of VA practice patterns or provider productivity. For example, it does not represent the effect of

geographic variation in wages or other costs. Analysts who wish to determine the effect of practice patterns and provider productivity on resource use will need to undertake staff activity analysis, a method sometimes referred to as micro-costing.

- NEW **There are known problems with the VA CPT codes that affect the cost estimates.** The program that creates the SAS extract of the NPCD sets a limit of 15 CPT codes per encounter and strips out duplicate CPT codes within each encounter. HERC has been working with VHA National Data Systems staff to investigate the implications of these limits. HERC obtained a 10% sample of the NPCD that had no limit on the number of CPT codes and allowed duplicate CPT codes. The limits on the CPT codes in the NPCD excluded about 12% of the CPT codes. Thus, the NPCD SAS extract under-represents the services VA actually provided. This causes a moderate increase in the HERC outpatient cost estimates for each CPT code used as they spread the VA's costs across fewer services than VA actually provided. HERC is preparing a recommendation for the VHA National Data Systems to minimize this problem.

1.3 Changes for FY 2001 HERC Cost Estimates

As part of the annual update to add average cost estimates for new data, HERC also searched for better payment estimates for CPT codes that do not have established Medicare payments. The main changes that were made to the FY 2001 HERC Outpatient Average Cost estimates were:

- Relative Value Units (RVUs) consistent with the Medicare payment methodology were added for most dental services. These replaced the American Dental Association (ADA) and Wasserman charge surveys, which were used to estimate the HERC value of dental services provided in prior years.

- Medicare payment data were available for many more types of durable medical equipment. As a result, fewer assumptions were needed to estimate the HERC value for this equipment. In prior years, the value relied on the payments for similar equipment, or the average values for each category of care.

- Actual VA pharmaceutical costs from the VA Pharmacy Benefits Management (PBM) data were used to estimate the cost of drugs administered in the ambulatory setting. In prior years, the average wholesale price from RedBook was used to estimate the HERC values. The RedBook prices were used in FY 2001 for drugs for which PBM data were not available.

This documentation describes the sources of the relative values that we used to calculate the HERC value for VA outpatient visits. We included additional detail on the sources that we applied to visits that took place in 2001. For earlier years, we merely indicated the number of visits whose value was based on the Ingenix schedule. This schedule gave both Medicare Resource Based Relative Values and Ingenix values for gap

codes. For 2001, we subdivided this report into the six different sources that we used, including four different Medicare relative value schedules, and two Ingenix schedules.

1.4 Changes for FY 2002 HERC Cost Estimates

With the continued evolution of the Medicare payment systems, Medicare payments were established for some CPT codes that were previously assigned a payment using other methods. The other main changes that were made to the FY 2002 HERC Outpatient Average Cost estimates are described below.

Data were obtained from the VA National Prosthetics Patient Database developed by the Prosthetic and Sensory Aids Service Strategic Healthcare Group. In addition to the actual VA costs for prosthetic devices, these data also contain similar data for other devices that are implanted in patients, including cardiac devices. These data provided payment information for many CPT codes that were not directly matched to payment information in previous releases of the HERC Outpatient Average Cost data.

Private sector charge data from a dataset of over 30 million claims were obtained for selected CPT codes from William Mercer Company. HERC provided Mercer with a list of the CPT codes for which HERC did not have payment data. Since the Mercer claims data had information on private sector charges, and the Medicare fee schedules are based on estimated costs, it was necessary to adjust the charge data. We rescaled Mercer charges so that they were comparable to Medicare payments. We multiplied Mercer charges by the ratio of Medicare payments to Mercer charges for procedures having values in both sources.

HERC changed the priority for using different fee schedules, using payments from the Medicare Durable Medical Equipment (DME) and Parenteral and Enteral Nutrition (PEN) fee schedules before using Ingenix gap codes. This greatly increased the number of CPT codes for which the payment source was the DME fee schedule, but probably did not have large effects on the estimated payments.

In the Medicare payment schedules, many types of equipment (e.g., wheel chairs, hospital beds) can have up to three payment rates: new, rental, and used. Across all of the devices that have multiple payment rates, none of the rates is available for every device. Prior to FY 2002, HERC had used the first non-zero payment that was listed in the various electronic data sets it used for these data. Starting with FY 2002, HERC looked first for a used payment, then a new payment, and only used the rental payment if neither of the others were available.

Due to space limitations in many of the tables, the data reported in the tables have been limited to the last four years of the HERC outpatient average cost data (FY 2000 – FY 2003). HERC will maintain previous versions of this documentation on its web site so that users can obtain documentation for earlier years of data.

In a notice distributed to all registered users of the HERC average cost data in March 2003, HERC changed the recommended method for linking the HERC outpatient average cost data with the NPCD. This change has been incorporated into the methods for linking the HERC data in Chapter 5. The new linkage method will work for all years of the HERC outpatient average cost data.

1.5  Changes for FY 2003 HERC Cost Estimates

There was only one significant change for the FY 2003 HERC outpatient average costs estimates. In response to a request from HERC, a variable that uniquely identifies each encounter was added to the NPCD SE file for FY 2003. As a result, HERC has changed the data method to link the HERC average cost data to the SE file to take advantage of this new variable. Full details of this change, and new SAS code for linking the HERC average cost data to the SE file, are included in Chapter 5. This change will make it easier to link the HERC data and, more importantly, changes to the SE file will not affect the ability to link the HERC data to the SE file. This method applies only to data starting with the FY 2003 data. Users will still need to use the previous linkage methodology to link data from earlier years.

In 2003 HERC published a supplement in Medical Care Research and Review on "Estimating VA Treatment Costs: Methods and Applications." This supplement includes information about the HERC inpatient and outpatient average cost datasets. The paper in this volume on the HERC outpatient average cost dataset compares the HERC outpatient costs with Medicare reimbursement (Phibbs, et al., 2003).

Chapter 2. Cost and Utilization Data

This chapter describes sources of VA cost and utilization data used to create the HERC Outpatient Cost Files. It describes in detail the following methodology:

- We excluded the cost of facilities that do not provide patient care.
- We made adjustments for situations in which facilities had consolidated. Consolidations were not necessarily accounted for at the same time in the cost and utilization databases. We recoded data to keep a common definition of a facility in the databases.
- Since patient care departments are sometimes defined differently in the cost data than in the utilization data, we aggregated departments to find a common denominator.

2.1 The VA Cost Distribution Report

The Cost Distribution Report (CDR), also called report RCS 10-0141, is routinely prepared by all VA medical centers. The CDR represents an estimate of the costs expended by each VA "patient care department."

VA expenditures are recorded in a general ledger, the Financial Management System (FMS). FMS tracks expenditures by "cost center," an accounting entity that corresponds to a VA "service." Cost centers do not necessarily correspond to a specific patient care department. Examples of VA cost-centers are Medicine and Plant Operations.

The CDR is created by distributing costs reported in the FMS cost centers to the Cost Distribution Accounts (CDAs) of the CDR. CDAs include patient care departments, such as Medicine, Admitting Screen, or Ambulatory Surgery. CDAs also include indirect cost departments such as Building Management.

The distribution of costs is based on estimates prepared by the service chiefs in each medical center. They estimate the amount of time staff spent on different activities. The cost of staff time, as reported in FMS, is then assigned to each CDA. At the end of each fiscal year, a cumulative CDR is prepared and reconciled to the costs reported in FMS. We used the end-of-year CDR Detail File as our source of these allocations and dollar values, as it includes indirect cost CDAs for equipment and building depreciation.[4]

[4] This report is the file named RMTPRD.SYS.CDR.DETAIL.EOYfy where "fy" denotes the federal fiscal year. Federal fiscal years run from October 1 to September 30, and are referred to by the year in which they end. Thus, the 1998 federal fiscal year is the 12-month period ending September 30, 1998.

To capture the cost of outpatient care, we selected ambulatory care cost distribution accounts that ranged between 2110 and 2800, and home healthcare accounts numbered 5000-5117. Table 2.1 lists the outpatient cost distribution accounts. Cost

Table 2.1 Outpatient Cost Distribution Accounts in the VA Cost Distribution Report as of Fiscal Year 2000

DEPARTMENT	DIRECT COST	INDIRECT COST
MEDICINE – SOC	2110	
ADMITTING/SCREENING	2111	
HIV/AIDS OP CLINICS	2119	
OP PRIMARY CARE MED	2130	
SURGERY – CBC	2210	
AMB OPERATING ROOM	2211	
OP PRIM CARE SURG	2230	
SPEC PSYCH – SOC	2310	
GEN PSYCH – SOC	2311	
HCHV/HMI SOC	2312	
PTSD CLINICAL TEAM	2313	
PSYSOCIAL-GRP SOC	2314	
PSYSOC-IND SOC	2315	
SUBSTANCE ABUSE (OP)	2316	
SUBSTANCE USE DISORD	2317	2800
HUD/VASH SOC	2318	
COMMUNITY OUTREACH	2319	
OP PRIM CARE SPT SOC	2330	
OP PRIM CARE GEN SOC	2331	
DIALYSIS – SOC	2410	
CANCER TREATMENT	2420	
ADULT DAY HLTH CARE	2510	
ANCILLARY SVC – SOC	2610	
REHAB-SUPT SVCS	2611	
DIAGNOSTIC SVC – SOC	2612	
PHARMACY – SOC	2613	
PROSTHETICS/ORTHOT	2614	
SCI SUBS ABUSE OP	2616	
DENTAL PROCEDURES	2710	
DOM AFTERCARE – VA	2750	
TELEPHONE CONTACTS	2780	
HOSPITAL BASED HOME CARE	5110	
HOME DIALYSIS	5111	
SPINAL CORD INJURY HOME CARE	5112	
RESIDENTIAL CARE HOME PROGRAM	5113	5000
OTHER HOME CARE PROGRAMS	5114	
COMM BASED DOM AFTERCARE	5115	
HOMEMAKER/HOMEHEALTH	5116	
INTENS PSYCH COMM CARE	5117	

accounts for inpatient care, contract providers, and associated fringe benefits were not used to create the HERC outpatient cost files and are not included in Table 2.1.

2.2 Distribution of Indirect Cost

Our average cost estimate required information about each CDA, including its share of indirect costs. The CDR distributes indirect costs only to groups of patient care departments. Table 2.1 shows the correspondence between direct and indirect costs in the CDR. The middle column lists the direct cost CDAs. These represent costs directly attributed to patient CDAs, such as the cost of outpatient physician services, nursing staff, laboratory services, supplies, etc. The right column provides the indirect CDAs.

The CDR reports the indirect cost of all ambulatory care in account 2800. This account represents the indirect cost of the 31 ambulatory care direct cost accounts numbered 2110-2780. A separate account, 5000, represents the indirect cost of the eight home healthcare accounts that are numbered 5110-5117. Each of these indirect CDA accounts include as many as eleven different types of indirect costs, each distinguished by numbers to the right of the decimal place. The types of indirect costs include education (.11, .12, .13, .14), research (.21 and .22), administrative support (.30), building management (.40), engineering (.50), equipment depreciation (.70), and building depreciation (.80).

We distributed these indirect costs to their corresponding direct cost accounts. We used the proportion of direct cost as the basis of this allocation. For each medical center, we calculated the proportion of the direct cost of ambulatory care in each direct cost ambulatory care account. This fraction was then used to calculate how much of the indirect cost of ambulatory care was assigned to that account. The same method was used to distribute the indirect cost of home healthcare to the direct cost home healthcare accounts.

2.3 The VA Outpatient Events File

Utilization data are reported in the FY 2000-2003 VA National Patient Care Database outpatient events files. These files contains data on approximately 60 million patient visits annually, including CPT codes, stations, and clinic stop codes. (This file is named MDPPRD.MED.SAS.SEfy, where "fy" represents the last two digits of the federal fiscal year.).

Table 2.2 lists the number of encounters and the number of CPT codes (procedures) identified in these files in each of the last four years.

Table 2.2 Outpatient Encounters and Procedure Codes in VA Outpatient Events File, Fiscal Years 2000-2003

	2000	2001	2002	2003
Outpatient Encounters	63,637,301	60,962,621	64,477,062	68,148,617
Services and Procedures (Number of CPT Codes Assigned)	107,239,449	111,159,530	119,942,485	126,657,128

2.4 Facilities with Cost Excluded

We excluded facilities that reported costs in the CDR, but did not report utilization in the outpatient events file. These included records for VA Headquarters (station 101), information services centers, and other VA support facilities. A list of these facilities and their 3-digit facility number is provided in Table 3. Most of these facilities do not appear in the official listing of VA facilities.[5] Most of these costs were incurred at VA Headquarters. We felt that central administration may involve activities that are more characteristic of a healthcare payer, rather than a healthcare provider. For this reason, we decided to exclude these costs. The table lists the facilities that incur outpatient cost but do not provide care, and the amount of outpatient and home healthcare cost that we excluded.

Table 2.3 Excluded Costs by Facility and Fiscal Year, 2000-2003

Facility Number	Facility Name	2000	2001	2002	2003
101	VHA Headquarters	60,170,922	47,949,168	76,609,774	92,243,479
741	Denver CHAMPVA	438,812	84,172	-118,484	94,365
742	*	0	0	0	0
760	*	1,092	1,267	346	58,807
761	*	902	593	568	639
762	*	5,759	5,120	23,423	22,651
763	*	542,782	515,058	688,923	761,580
764	*	1,130	791	5,547	10,654
765	*	2,817	784	855	3,201
766	*	6,306	7,471	17,637	13,128
797	Hines, IL	26,711	0	0	0
Total cost excluded		**61,197,232**	**48,564,422**	**77,228,589**	**93,208,503**

* Facility name unknown, facility number not listed in the VA address bulletin

2.5 Facility Integrations

In recent years VA has consolidated some neighboring facilities into a single healthcare system. Cost and utilization reports identify facilities by a 3-digit number (STA3N). When two facilities were merged, one of the facilities switched to the identification number used by the other. Unfortunately, this switch did not necessarily occur in the cost and utilization databases at the same time.

[5] Consolidated Address and Territorial Bulletin 1-L, U.S. Department of Veterans Affairs, Washington, DC 20420, August 31, 1999

We matched cost and utilization data so that facility integrations were handled uniformly in both databases. We treated all facility integrations as if they occurred at the beginning of the fiscal year. The facility identifier (STA3N) in the HERC Outpatient Cost File was not affected by this matching process because the HERC file uses the same identifier for each visit that appears in the outpatient event file. The table below lists the medical centers that were reassigned and the fiscal year in which the reassignment occurred.

Table 2.4 VA Facility Integrations that did not Occur Uniformly in Cost and Utilization Data

VHA Integrated Healthcare Systems	Fiscal Year	Old facility	New facility
Central Iowa Healthcare System	1998	Knoxville (592)	Des Moines (555)
Greater Nebraska Healthcare System	1998	Grand Island (574)	Lincoln (597)
Eastern Kansas Healthcare System	1998	Leavenworth (686)	Topeka (677)
Montana Healthcare System	1998	Miles City (617)	Ft. Harrison (436)
Boston Healthcare System	1999	Brockton (525)	Boston (523)
Greater Los Angeles HCS	1999	Sepulveda (665)	West Los Angeles (691)
Upstate NY Healthcare System	2000	Albany (500)	Buffalo (528)
Upstate NY Healthcare System	2000	Bath (514)	Buffalo (528)
New York Harbor Healthcare System	2000	Brooklyn Poly Place (527)	Brooklyn (630)
Upstate NY Healthcare System	2000	Canandaigua (532)	Buffalo (528)
Nebraska Western Iowa HCS	2000	Des Moines (555)	Omaha (636)
Nebraska Western Iowa HCS	2000	Lincoln (597)	Omaha (636)
Upstate NY Healthcare System	2000	Syracuse (670)	Buffalo (528)
Heartland East Healthcare System	2001	Columbia (543)	Kansas City (589)
Heartland East Healthcare System	2001	Marion (609)	St. Louis (657)
Heartland East Healthcare System	2001	Poplar Bluff (647)	St. Louis (657)
Heartland West Healthcare System	2001	Topeka (677)	Kansas City (589)
Heartland West Healthcare System	2002	Wichita (452)	Kansas City (589)

2.6 Definition of Categories of Outpatient Care

Patient care units are defined differently in the CDR than in the outpatient database. In the CDR care is characterized by the cost distribution account. In the VA outpatient database, care is characterized by a location identifier, a 3-digit clinic stop code (more recently renamed the DSS identifier). VA policy relates clinic stop codes to accounts in the CDR. This relationship is described in "Fiscal Year 2000 Decision Support System (DSS) Outpatient Identifiers." VHA Directive 2000-009, March 3, 2000. http://www.va.gov/publ/direc/health/direct/12000009.doc. This directive was updated by "Fiscal Year 2003 Decision Support System (DSS) Outpatient Identifiers." VHA Directive 2003-040, July 28, 2003. http://www.va.gov/publ/direc/health/direct/12003040.pdf

We aggregated cost distribution accounts and the care in their associated clinic stops into 13 categories of outpatient care. Starting in FY 2001, we added a category of unidentified clinic stops, making 14 categories. We felt that there was insufficient accuracy in the cost and utilization data to merge them at a finer level of detail. We grouped CDR accounts into the original 13 categories of care based on the similarity of services provided and the personnel providing them. For example, all types of physical and occupational therapy were grouped together; and medical clinics were grouped together but kept distinct from visits to surgery clinics. The 13 categories of care and their associated CDR accounts appear in Table 2.5.

Table 2.5 HERC Defined Categories of Care and VA Cost Distribution Report Accounts

CDR Account	CDR Account Name		HERC Category of Care
2110	MEDICINE – SOC	21	Outpatient Medicine
2111	ADMITTING/SCREENING	21	Outpatient Medicine
2130	OP PRIMARY CARE MED	21	Outpatient Medicine
2210	SURGERY – CBC	28	Outpatient Surgery
2211	AMB OPERATING ROOM	28	Outpatient Surgery
2230	OP PRIM CARE SURG	28	Outpatient Surgery
2310	SPEC PSYCH – SOC	29	Outpatient Psychiatry
2311	GEN PSYCH – SOC	29	Outpatient Psychiatry
2312	HCHV/HMI CBC	29	Outpatient Psychiatry
2313	PTSD CLINICAL TEAM	29	Outpatient Psychiatry
2314	PSYSOCIAL-GRP SOC	29	Outpatient Psychiatry
2315	PSYSOC-IND SOC	29	Outpatient Psychiatry
2316	SUBSTANCE ABUSE (OP)	30	Outpatient Substance Abuse Treatment
2317	SUBSTANCE USE DISORD	30	Outpatient Substance Abuse Treatment
2318	HUD/VASH CBC	29	Outpatient Psychiatry
2319	COMMUNITY OUTREACH	29	Outpatient Psychiatry
2330	OP PRIM CARE SPT SOC	29	Outpatient Psychiatry
2331	OP PRIM CARE GPT SOC	29	Outpatient Psychiatry
2410	DIALYSIS – SOC	22	Outpatient Dialysis
2420	CANCER TREATMENT	21	Outpatient Medicine
2510	ADULT DAY HLTH CARE	32	Outpatient Adult Day
2610	ANCILLARY SVC – SOC	23	Outpatient Ancillary Services
2611	REHAB-SUPT SVCS	24	Outpatient Rehabilitation
2612	DIAGNOSTIC SVC – SOC	25	Outpatient Diagnostics Services
2613	PHARMACY – SOC	26	Outpatient Pharmacy
2614	PROSTHETICS/ORTHOT	27	Outpatient Prosthetics
2710	DENTAL PROCEDURES	31	Outpatient Dental
2750	DOM AFTERCARE – VA	29	Outpatient Psychiatry
5110	HOSPITAL BASED HOME CARE	33	Home Care
5111	HOME DIALYSIS	22	Outpatient Dialysis
5112	SPINAL CORD INJURY HOME CARE	33	Home Care
5113	RESIDENTIAL CARE HOME PROGRAM	33	Home Care
5114	OTHER HOME CARE PROGRAMS	33	Home Care
5115	COMM BASED DOM AFTERCARE	33	Home Care
5116	HOMEMAKER/HOMEHEALTH	33	Home Care
5117	INTENS PSYCH COMM CARE	29	Outpatient Psychiatry

Not every CDR account has a clinic stop code. We assumed that codes referring to home health visits should be matched to the home healthcare cost distribution accounts (these were stop codes 118, 119, 121, and 170-177), and that emergency care (101), local identifier codes (450-499), telemedicine (690) and screening visit codes (clinic stops 701-712) should be matched to the medical outpatient care accounts.

Starting in FY 1999, a second problem with the clinic stop codes was discovered; the use of stop codes that were not identified, or that did not represent VA-provided ambulatory care (e.g. contract dialysis or residential care). In FY 1999 and FY 2000, these represented very few visits (1,922 in FY 1999 and 4,584 in FY 2000) and all were for contracted care or inpatient care. Since these were not for VA-provided ambulatory care, these few observations were dropped from the HERC Outpatient Average Cost data, and we did not create either a HERC value or a HERC cost for these visits. The cost of VA-provided inpatient care was estimated in the HERC inpatient average cost files; we did not want to provide an estimate that might result in analysts double counting costs.

The use of unidentified clinic stop codes was much larger in FY 2001 (47,924 visits and 56,719 codes). These stop codes do not appear in any present or past policies defining stop codes, and we did not know what kind of care they represented. Starting with the FY 2001 data, we assigned these visits to their own category: unidentified stops. Because these stops could not be matched to a category, we could not assign a CDR cost to them. Instead, we used the estimated Medicare payment as both the HERC value and the estimated VA cost. These VA cost estimates were not scaled to VA costs from the CDR, as there was no CDR data on these encounters. As a result, the aggregation of HERC cost estimates are slightly out of balance as we assigned more costs than were reported in the CDR. Since these stops accounted for about 0.01% of the total visits, the resulting error was very small. Table 2.6 shows the VA clinic stop codes used in FY 2001 - FY 2003 that either represented care that was not ambulatory care or care categorized with unidentified stop codes, and the number of visits and procedures recorded at these stops.

Six of the unidentified clinic stop codes in FY 2001 (163, 164, 351, 533, 565, and 566) were defined in a draft policy that had not yet been adopted by VA in FY 2001. These six clinic stops accounted for about 75% of the visits to undefined clinic stops in FY 2001. Since the unidentified stops represented such a small proportion of the outpatient care provided by VA, HERC chose not to recreate the FY 2001 outpatient average cost dataset to correct this problem.

For FY 2002, HERC incorporated information on the new stop code policy into the allocation of CDR dollars and the assignment of outpatient care to categories of care. As a result, there was a marked drop in the number of outpatient visits assigned to the HERC Unidentified Stops category (from 47,924 visits in FY 2001 to 9,521 visits in FY 2002). The use of HERC Unidentified Stops almost doubled in FY 2003 (17,656 visits).

Table 2.6 Clinic Stops Assigned to the HERC "Unidentified Stops" Category of Care in Fiscal Years 2001-2003

STOP NO.	VISITS 2001	CPTCODES 2001	VISITS 2002	CPTCODES 2002	VISITS 2003	CPTCODES 2003
161					2,322	2,377
163	1,766	1,896	1,567	1,763		
164	1,013	1,013	471	471		
221					16	16
348					1	1
351	226	226				
482	34	107				
485	186	203				
533	7,318	8,299				
565	6,543	9,520				
566	18,106	21,830				
610	5,484	6,235	5,445	6,224	2,298	2,684
640					120	120
650	8	8	25	27	27	28
651	219	219				
654	3,948	3,959			1	1
656			1	1	10,604	14,478
670			632	727	1,661	1,917
685					15	16
686					25	25
690	444	503	899	1,264	341	466
711			6	11		
712	2,278	2,286	396	420	213	321
730	65	128	19	20	1	1
731	286	287	34	34	11	12
801			26	26		
Total	**47,924**	**56,719**	**9,521**	**10,988**	**17,656**	**22,463**

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2.7 Telephone Care

The CDR includes a separate account for the cost of all telephone care given by VA ambulatory care providers. This account is an estimate of the cost of all outpatient care providers (e.g. physicians, nurse practitioners, pharmacists, nurses in primary care clinics or social workers and counselors in substance abuse programs). We believed that these estimates were unlikely to be accurate. Therefore, we distributed the telephone care costs back to the component clinics that provided the telephone care. Each clinic was assigned costs based on its share of the total number of telephone encounters. Table 2.7 provides the telephone clinic stops and the category of care to which we assigned it.

2.8 Reassignment of Mismatched Cost and Utilization to Different Categories

For some categories of care at some medical centers, there were apparent mismatches between cost and utilization data. We identified the most egregious of these by finding categories of care that had costs without utilization, or utilization without cost. This problem was especially prevalent in home healthcare, adult day care, and prosthetics care categories.

Table 2.7 Assignment of Telephone Clinics to HERC Categories of Care

Clinic Stop Number	Standard VA Clinic Stop Name (FY 2001)	HERC Category of Care
103	TELEPHONE TRIAGE	21
147	TELEPHONE/ANCILLARY	23
148	TELEPHONE/DIAGNOSTIC	24
169	TELEPHONE/ CHAPLAIN	23
178	HBPC/ TELEPHONE	33
181	TELEPHONE/ DENTAL	31
216	TELEPHONE/REHAB & SUPPORT	24
324	TELEPHONE/ MEDICINE	21
325	TELEPHONE/ NEUROLOGY	21
326	TELEPHONE/ GERIATRICS	21
424	TELEPHONE/ SURGERY	28
425	TELEPHONE/ PROSTHETICS/ ORTHOTICS	27
428	TELEPHONE/ OPTOMETRY	28
526	TELEPHONE/ SPECIAL PSYCHIATRY	29
527	TELEPHONE/ GENERAL PSYCHIATRY	29
528	TELEPHONE/ HOMELESS MENTALLY ILL	29
530	TELEPHONE/HUD-VASH	29
536	TELEPHONE/ MH VOCATIONAL ASSISTANCE	29
537	TELEPHONE/ PSYCHOSOCIAL REHABILITATION	29
542	TELEPHONE/ PTSD	29
543	TELEPHONE/ ALCOHOL DEPENDENCE	30
544	TELEPHONE/DRUG DEPENDENCE	30
545	TELEPHONE/SUBSTANCE ABUSE	30
546	TELEPHONE/ MHICM	29
579	TELEPHONE/ PSYCHO-GERIATRICS	29
611	TELEPHONE/ DIALYSIS	22
729	TELEPHONE/ DOMICILIARY	29

For these cases, we reassigned the costs (or utilization) to another category of care. We attempted to reassign the costs (or utilization) to a similar category. Before reassigning the unmatched cost (or utilization) we evaluated whether other categories showed evidence of missing utilization (or cost), by comparing the facility's mean cost to the national mean cost. When there was a choice of reassignment, we chose the reassignment that brought the facility mean cost in line with the national mean.

These reassignments were minor in scope and accounted for much less than 0.1% of VA cost and outpatient visits. The number of encounters and the total dollars of cost that was reassigned are shown in Table 2.8.

Table 2.8 Reassignment of Mismatched Cost and Utilization to HERC Categories of Care

	FY 2000	FY 2001	FY 2002	FY 2003
Visits Reassigned	46,775	33,884	10,274	5,437
Dollars Cost Reassigned	$2,015,189	2,983,789	1,210,905	2,109,804
Percent of VA Outpatient Costs Reassigned	0.024%	0.031%	0.011%	0.018%
Total Dollars VA Outpatient Costs	$8,455,153,148	9,709,467,334	10,583,917,075	11,758,125,874

These cost reassignments had minor impact on the values reported in the HERC Outpatient Cost File. The reassignment of cost or utilization affected the national total for the categories of care. We did not use either cost or utilization data within categories of care at a specific facility to create our cost estimates.

Table 2.9 shows the CDR costs with all of these adjustments and the number of visits from the Outpatient Events file for each category of care for FY 2000-2003.

Table 2.9 Cost and Utilization by HERC Category of Care by Fiscal Year

		Cost (dollars)					Utilization (visits)			
		2000	2001	2002	2003		2000	2001	2002	2003
21	Outpatient Medicine	2,310,789,310	2,596,837,176	2,813,652,599	3,140,693,408		16,417,189	17,792,659	18,936,187	21,781,760
22	Outpatient Dialysis	97,494,620	100,189,460	102,545,580	107,506,033		275,160	279,829	285,017	288,701
23	Outpatient Ancillary Services	195,494,620	219,072,191	227,751,415	230,698,190		3,965,810	4,300,888	4,953,224	3,196,265
24	Outpatient Rehabilitation	264,348,590	296,117,043	301,688,261	339,748,281		3,349,965	3,437,827	3,430,955	3,481,434
25	Outpatient Diagnostics Services	759,051,648	820,843,650	870,390,437	958,505,125		21,934,534	17,167,932	18,092,041	19,433,633
27	Outpatient Prosthetics	265,552,185	300,929,241	337,164,037	379,423,126		530,028	490,772	801,891	1,562,780
26	Outpatient Pharmacy	2,652,165,809	3,241,716,151	3,673,347,625	4,139,531,893		-	-		
28	Outpatient Surgery	758,737,263	854,829,527	900,293,958	1,016,970,792		5,472,544	5,691,113	5,903,602	6,201,840
29	Outpatient Psychiatry	599,024,008	658,190,250	701,627,566	738,193,695		6,947,192	7,027,074	7,321,257	7,486,333
30	Outpatient Substance Abuse Treatment	182,696,246	201,699,642	196,064,343	202,807,117		3,034,108	3,036,895	3,031,674	2,992,910
31	Outpatient Dental	186,487,626	201,565,777	215,555,502	227,738,143		1,006,533	1,014,943	1,038,658	1,055,989
32	Outpatient Adult Day	10,224,767	11,918,193	13,411,369	13,689,782		113,906	112,107	107,253	90,909
33	Home Care	173,086,964	205,559,034	230,424,383	262,620,291		563,095	562,658	565,782	558,407
99	Unidentified Stops		0	0	0			47,924	9,521	17,656
Total		**8,455,153,148**	**9,709,467,334**	**10,583,917,075**	**11,758,125,874**		**63,639,920**	**60,962,621**	**64,467,541**	**68,148,617**

Chapter 3. HERC Provider Payment

We calculated hypothetical payments for every VA outpatient visit using Medicare and private sector reimbursement rates. We called this payment the "HERC value."

Healthcare payers pay both providers and facilities. This chapter describes our method of finding the provider component of the HERC value. Chapter 4 describes the facility component of the HERC value.

Medicare payments differ between office-based and facility-based physicians. Since we assumed that all VA care is provided in a facility, we used the payment rate for facility-based physicians. Although the payment to an office-based physician is usually greater than the payment to a facility-based physician, the facility receives a separate payment that usually exceeds this difference.

Medicare provider payments cover not only physician services, but include other items such as laboratory tests, diagnostic imaging, and medical supplies. Medicare uses the Resource Based Relative Value Scale (RBRVS) to calculate provider payments. RBRVS is based on detailed study of the cost of production (Hsiao, et al., 1992) and this system replaced reimbursement based on customary fees in 1989. The RBRVS estimates the economic costs of a physician's work. These RBRVS values are weights that are based on the time it takes to provide a service or perform a procedure. They also reflect the minimum training required to provide a given service; this compensates providers for income lost during their years of training. Compensation is higher for more stressful tasks; this compensates providers for the effect of stress on productivity and the cognitive contribution that is required.

Starting with the FY 2001 data, the main sources of payment information will adjust to match the fiscal year. For the FY 1998-2000 cost estimates, the HERC values were all based on 2000 Medicare payment rates. For FY 2001, the Medicare payment rates for FY 2001 were used as the primary source for HERC values. In the future, the HERC value for a given year will continue to be based upon that year's Medicare payment rates.

3.1 Application of Medicare Reimbursement Methods

The Medicare reimbursement algorithm is complex. We adapted and simplified it to meet our goal of using this payment scheme to estimate economic cost as dollar values that reflect the special situation of the VA. These adaptations are discussed below. The discussion includes our handling of the geographic adjustment to provide payments, our treatment of payments for practice expense, procedures subject to global payment, and the split between technical and professional components.

3.1.1 Geographic Adjustment

Medicare geographically adjusts all three components of the RBRVS payment: physician work, practice expense, and malpractice expense. We did not employ these geographic adjustments. We were interested in estimating a payment that represented the national average value (cost) of care rendered, from the payer's (VA's) perspective.

We used the national payment ***without*** any geographic adjustment. The HERC national value for an identical service is the same regardless of where in the country it is provided. Analysts who want estimates that reflect the effect of geographic variations in costs should use the HERC local cost estimate (see Chapter 5).

3.1.2 Resource-Based Practice Expense

HERC used the RBRVS relative value units for the practice expense component of the provider payment. We did not use the historic rates that Medicare uses to calculate payments. Before FY 1999 the Medicare payment was entirely based on historic physician practice cost; since FY 1999 Medicare has been phasing in payment reimbursement rates that are based on the RBRVS relative value. This "phase-in" was completed in FY 2002. We used the RBRVS rates, as we believe they are a more accurate estimate of the actual economic costs of the practice expense associated with each service.

3.1.3 Procedures Subject to Global Reimbursement Rates

Medicare reimburses providers with a global payment for some procedures. This payment is for pre-operative care, peri-operative, and post-operative care. The payment is the same regardless of the number of pre-operative and post-operative visits.

For procedures subject to global reimbursement, Medicare identifies what part of the reimbursement for performing the procedure, and what part is for all other covered services. Our goal was to develop VA cost estimates that reflect actual resource use. Instead of using the Medicare global payment, we separated rates for services. For procedures that Medicare assigns a global payment, we used the payment for the procedure alone, and assigned specific costs for each pre-operative and post-operative encounter. Our estimates thus reflect variations in resource use associated with a different number of pre-operative and post-operative visits.

Because it pays for post-operative visits via global payments, Medicare does not have a reimbursement rate for post-operative visits (CPT code 99024). We used the reimbursement rate for a brief Evaluation and Management visit with an established patient, CPT code 99211, when CPT code 99024 was used. VA may code some post-operative visits with other visit codes, such as standard evaluation and management codes.

3.1.4 Bundling of Professional and Technical Component

Medicare allows separate payment for the professional and technical components of services that can be split across providers. Radiographic images, for example, include a

technical component for the provider who takes an x-ray and a professional component for the physician who interprets it. VA does not distinguish between these activities in its data, so we used the bundled payment rate.

3.2 Relative Value Units and Fee Rate Conversation Factors

Under RBRVS, Medicare calculates payments in terms of relative value units (RVUs). Medicare issues a "conversion factor" that converts the RVUs to dollars. There are separate conversion factors for anesthesiologists and for other providers. The conversion factors used by Medicare are updated annually. These are listed in Table 3.1.

Table 3.1 Medicare Conversion Factors for Relative Value Units, FY2000-2003

	FY 2000	FY 2001	FY 2002	FY2003
Anesthesiology	17.77	17.26	16.60	17.05
All Other Providers	36.61	38.26	36.20	36.79

For a few services, the reimbursement is not set by RVUs and conversion factors, but is found in a Medicare fee schedule.

3.3 Sources of Provider Payment Data

We relied on Medicare RBRVS methods wherever possible, but used a variety of sources so that every CPT code was assigned a plausible payment. Section 3.5 describes how we estimated payments for VA services characterized by VA's non-standard use of CPT codes.

3.3.1 Fiscal Year Medicare Reimbursement Schedule

The HERC value for fiscal year 1998 through 2000 is primarily based on relative value units in the FY 2000 Medicare RBRVS schedule as our primary source of relative value units. We used this because it was the most comprehensive data source, and it was consistent with other sources of data which were only available for fiscal year 2000, including RVUs for gap services (described in the next section) and the schedule of facility payments (described in Chapter 4).

The consequences of applying year 2000 Medicare RVUs to earlier years' data are very small. Medicare makes few changes in RVUs from year-to-year. Most changes involve the addition of new procedures or modifications of the procedure coding system.

Although we used FY 2000 relative value units, we used the conversion factor for the year in which the service was actually provided. For example, to estimate the provider portion of the HERC value for FY 1998 we multiplied the FY 1998 conversion rate by the fiscal year 2000 relative value unit.

Starting with the FY 2001 data, we used the Medicare reimbursement schedules that matched the fiscal year of the utilization data.

The Medicare RBRVS fee schedule, and those of other Medicare fee schedules are available on the Medicare web site:

http://www.cms.hhs.gov/providers/pufdownload/default.asp

3.3.2 Medicare Schedules from Other Years

For a small number of procedures, we used Medicare RVUs from other years. We used the RVUs in the 1997 Medicare RBRVS schedule for procedure codes that had become obsolete by the year 2000. We used the 2001 Medicare RBRVS schedule for professional services that were not covered by Medicare in 2000.

For the 2001 outpatient average cost dataset, we used the 2001 Medicare RBRVS as the main source of payment data; we used the 2000 and 2002 RBRVS as secondary sources of data. This pattern will be maintained over time for subsequent fiscal years.

3.3.3 Other Medicare Fee Schedules

For the FY 2001 data, other Medicare fee schedules were added as sources of payment information. The Medicare Durable Medical Equipment, Prosthetics/Orthotics, and Supplies (DMEPOS) Fee Schedule had payments for CPT codes that did not have a Medicare payment rate in earlier years' schedules. This resulted in the use of Medicare payments for the HERC value for many more of these types of services; of the 153 CPT codes assigned DMEPOS payments, almost all were new for FY 2001. Also, the Medicare Parenteral and Enteral Nutrition Items and Services (PEN) Fee Schedule was added as a data source starting in FY 2001.

For the FY 2002 data, we changed the priority for using payment rates from these other Medicare fee schedules. In previous years, the Ingenix gap codes had a higher priority than other Medicare fee schedules. We reversed this for FY 2002. As a result, there was a big jump in the number of CPT codes matched to DMEPOS payments (from 153 to 1342), and a corresponding reduction in the use of Ingenix gap codes. These payments tended to have very similar, if not identical, RVUs. Thus, the effect on the HERC values is minimal.

3.3.4 "Gap Codes"- RBRVS Methods for Services not Covered by Medicare

Many outpatient professional services provided by VA are not covered by Medicare. Examples of these services include telephone contacts and some types of preventive care. Although Medicare does not cover these services, we wished to assign a comparable reimbursement (the "HERC value").

Many non-Medicare payers use RBRVS methodology. These payers reimburse providers for some services not covered by Medicare. Since these professional services represent a "gap" in Medicare coverage, these codes for the services are often times referred to as "gap codes."

RVUs for gap code services are published by Ingenix Corp (Ingenix, 2000, 2001, 2002, 2003, 2004). Ingenix uses the same RBRVS method employed by Medicare to estimate relative values. We used available Ingenix RVUs for year 2000 to find the HERC value for gap code services provided in fiscal years 1998 through 2000. We supplemented these with Ingenix codes for the year 2001. We applied the same methods, assumptions, and conversion factors that we applied to RVUs obtained from Medicare.

Starting with FY 2001, HERC used the contemporary year (2001) of the Ingenix relative values to determine payments for that fiscal year. Other years of the Ingenix data (e.g. 2000 and 2002) were used as secondary sources of gap code RVUs.

3.3.5 Cost Pass Through Payments

There are some CPT codes (mostly HCPCS codes) that represent supplies, devices, or pharmaceuticals that Medicare historically paid for on a "cost pass through" basis. For these CPT codes, there is no provider payment, only a facility payment. For CPT codes that had an established Medicare Hospital Outpatient Prospective Payment were assigned a HERC provider payment of zero as the facility payment (see Chapter 4) represents payment in full.

3.3.6 Dental Fee Surveys

Dental services are characterized by HCPCS codes that begin with the letter "D." We estimated the HERC value using the national median charge reported in two national surveys. We first used data from the 1999 survey of the American Dental Association (ADA 2000). For dental services not covered by the ADA, we used the 1999 survey data from the 2000 National Dental Advisory Service (NDAS 2000). We adjusted charges from the survey year to the year of utilization using the average ratio of Medicare conversion factors for the same years.

The FY 2001 Ingenix relative values included values for most dental services. Thus, starting with the FY 2001 data, the HERC values for almost all dental services are based on gap code RVUs, instead of the surveys of dental charges. In 2001, the Ingenix dental gap codes were the payment source for 424 HERC values that were used by VA a total of 2,240,612 times. With the addition of dental RVUs to the Ingenix data in FY 2001, the dental fee surveys were the secondary source of payment data for dental services. The use of the dental charge surveys dropped to about a tenth of the previous level; 48 CPT codes and 101,720 procedures in FY 2001, compared to 440 CPT codes and 2,385,223 procedures in FY 2000. The relative use of these two sources of payment data was very similar for FY 2002 and 2003; in FY 2003 the Ingenix dental gap codes were the payment source for 462 HERC values that were used by VA a total of 2,052,716 times.

3.3.7 VA Contract Rates

For VA compensation and pension exams, we used the national average contract cost of $437.[6] These statistics represent data from May 1 through December 27, 1998. The average

[6] The data were obtained from a status report provided by Robert Epley, Director, Compensation and Pension

cost is based on 18,907 exams performed under contract by QTC Medical Group, Inc. The payment to QTC includes physician time, scheduling, correspondence and a complaint resolution process. This rate is annually adjusted for inflation.

3.3.8 California Workers Compensation Charges

We used payments allowed by the California Workmen's Compensation System to calculate the HERC values for rehabilitation services not covered by Medicare. We rescaled the California RVUs so that they could be used with the Medicare conversion factor. For services that were covered by Medicare that were also in the California RVU schedule, we calculated the ratio of Medicare to California RVU. The median ratio was 6.22. This was multiplied by the California RVU to remove any regional inflation rates.

3.3.9 Physician Charge Surveys

For the remaining physician services for which we had no payment amount, we used the median charge reported in a survey of U.S. physicians (PFR 2000). We adjusted these charges to make them consistent with Medicare reimbursement rates.

For services covered by Medicare that had a charge reported in the survey, we calculated the ratio of fiscal year 2000 Medicare reimbursement rates to this survey's median charge. The median of this ratio was 0.53. We multiplied the charges in the survey by this value to find the HERC value for fiscal year 2000; for the earlier years, we also adjusted the payment for the change in Medicare conversion factors. Starting with the FY 2001 data, this adjustment for inflation was also carried forward.

3.3.10 Private-Sector Claims Data

For the FY 2002 update of the data, we obtained private-sector claims data from the William Mercer Company that were drawn from a dataset of over 30 million claims records. HERC submitted to Mercer a list of all of the CPT codes for which HERC lacked Medicare and Ingenix payment data. So that the Mercer claims data could be scaled to Medicare payment rates, we also obtained Mercer data for selected CPT codes that had Medicare or Ingenix payment data. For each CPT code, Mercer provided HERC with the number of claims and the median charge.

There was a large variance in the ratios of the median charges in the Mercer data to Medicare payment rates. We therefore classified the CPT codes into groups of similar services, and calculated ratios of the Mercer charges to Medicare payments for each group. We used a total of nine groups:

Surgery
Evaluation and management/medicine
Vaccines, pharmaceutical, injections

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service. The data are from a pilot study authorized by PL 104-275.

Prosthetics
Behavioral health
Laboratory, diagnostic test, imaging
Chemotherapy drug or contrast medium
Occupational, physical, or speech therapy
Home care

We used these ratios to scale the charges from the Mercer data down so that they were comparable to Medicare payment rates. In the FY 2003 data we used these adjusted Mercer charges to establish the HERC value for 119 CPT codes that were used 1,906,064 times by VA.

3.3.11 VA Pharmacy Benefits Management Data

For FY 1998-2000 we used average wholesale prices from RedBook (2000) as the primary alternative source for payments for pharmaceuticals not listed in Medicare payment schedules. The VA Pharmacy Benefits Management (PBM) Strategic Health Care Group maintains a database of the VA costs for most pharmaceuticals dispensed by VA. To maintain consistency with the other sources of the HERC values, we used Medicare payment rates for pharmaceuticals when they were available. If there was no Medicare payment for a CPT code for a pharmaceutical, we used the PBM rate as the primary alternative. Adding the PBM as a data source replaced RedBook (2000, 2002) as a data source for all but two pharmaceutical CPT codes in FY 2001. The Red Book was not used as a data source in FY 2002 or 2003. Note that these data are limited to pharmaceuticals administered during outpatient encounters; the VA Outpatient National Patient Care Database events file (commonly referred to as the "SE file") does ***not*** contain data on dispensed prescriptions.

3.3.12 VA National Prosthetics Patient Database

For FY 2002 we obtained summary data from the VA National Prosthetics Patient Database developed by the Prosthetic and Sensory Aids Service Strategic Healthcare Group (PSASSHG). Every time a prosthetic or sensory aid is dispensed, it is supposed to be reported to the prosthetics database. Items reported to these data include a wide range of items, including many items that might not normally be considered prosthetics, including catheters, some bandages, and cardiac devices such as pacemakers and automatic implantable defibrillators. While there had been past problems with the reporting of these data to the prosthetics database, PSASSHG staff reported that they believe these reporting problems had been resolved for the FY 2002 data. HERC is planning to work with PSASSHG staff to try and verify the completeness of the reporting of these data. The dataset that HERC obtained from the PSASSHG contained the number of times each CPT code was recorded in the Prosthetics database, and the average VA cost for the item.

To scale the VA costs to Medicare payments, we compared the ratio of VA costs to Medicare payments for those items for which there were established Medicare payments. The median of these ratios was 65 percent. Thus, on average, the VA costs for these items was 65 percent of Medicare payments. We shared this information with PSASSHG staff, and they confirmed that this was similar to what previous GAO studies have found. Thus, we divided the

VA costs by 0.65 to make them comparable to Medicare payments. We should note that there was considerable variance in the ratios of VA costs to Medicare payments. PSASSHG staff informed us that much of this was probably due to the fact that they often contract for bundles of services, and that they often obtain very low costs for some items as part of a package that will include higher costs for other items. This packaging of services does result in the VA costs for some services being very different from Medicare payments. HERC has no way of unbundling these packaged VA costs. Since this source of payment data was used to assign payments to items previously assigned to category average costs, they probably represent an improvement in HERC values, even with the known variance in payments for individual items.

In FY 2002, the VA prosthetics costs were the source of the provider component of the HERC value for 160 CPT codes used by VA a total of 229,317 times. For the FY 2003 HERC Outpatient Cost File, we also obtained these VA prosthetics costs data for FY 2003. In FY 2003 the combined prosthetics data for FY 2002 and FY 2003 were the source of the HERC values for 208 CPT codes that were used a total of 503,024 times. The overall effect of the VA prosthetics data is actually larger, as the VA prosthetics costs were also the source of facility payment information in FY 2003 for 50 CPT codes used by VA a total of 4,037 times. These represented cost pass-through items with no provider payment (see Table 4.1). In Table 3.2, these 50 codes are included in the 382 codes shown in the "cost pass-through" row.

3.3.13 Other Sources

We used additional sources of payment rates for services that did not have RVUs in the Medicare or Ingenix gap code schedules.

When medication is administered by a provider, an HCPCS code is assigned. The codes for these services begin with the letters "J" or "S." We used the wholesale price reported in RedBook (RedBook 2000) for 10 services represented by J-codes in FY 1998. We used the rates proposed by Medicare as payment for fixed wing and helicopter ambulance services. For some types of medical supplies, we used the rates from the Home Health Prospective Payment System Demonstration.

3.3.14 Summary of the Sources of HERC Value Data

VA provision of outpatient services has grown over time. In FY 1998 VA used 9,100 different CPT codes to characterize over 97 million services and procedures. By FY 2003 this had grown to 10,593 different CPT codes to characterize over 126 million services and procedures. The provider component of the HERC value assigned to these visits has grown from $3.5 billion in FY 1998 to $4.1 billion in FY 2003.

Table 3.2 characterizes VA outpatient care by the source of the HERC value. For the vast majority of care, the value was estimated from Medicare fee schedules and Ingenix gap codes. Table 3.3 provides additional details about the application of Medicare and Ingenix RVU schedules to estimate the cost of VA outpatient care. A number of visits were characterized by non-standard use of CPT codes; these accounted for nearly 10% of the services provided in FY

1998, however the portion of visits characterized by non-standard codes has been dropping, and represented only 5% of the services provided in FY 2003. The next section and Table 3.4 provide information on how we handled the non-standard use of codes.[7]

Starting with the FY 2001 data, we added more detail on the sources of provider RVUs used to calculate the HERC values. We separated the Medicare RBRVS and Ingenix gap code data into some of their component parts, with separate rows for Ingenix gap codes, Ingenix dental gap codes, laboratory codes, anesthesia codes, codes with Medicare global payments, and the rest of the RBRVS and put this in Table 3.3. We also separately identified those CPT codes that have no provider payment because they are cost pass-through payments to facilities for devices or other supplies (e.g. chemotherapy agents). The Medicare RBRVS (50,768,895 procedures) and the laboratory codes (38,759,341 procedures) were the sources that we relied on the most in FY 2001.

In FY 2002 the Medicare laboratory fee schedule was used for a few more CPT codes (increasing from 911 codes to 948 codes). These codes represented significantly more procedures (38,759,341 vs. 44,822,270). This trend continued for FY 2003, but the growth was more modest; 973 CPT codes that were used 48,970,107 times. In FY 2002 there was also a large drop in the number of HERC values based on Ingenix gap codes (609, down from 1,674). Most of this change was the result of the preferential use of the Medicare DMEPOS fee schedule, discussed above. Since these CPT codes weren't used frequently, the effect on the number of procedures with gap code based HERC values only declined slightly, from 8,695,549 to 8,581,347. The use of HERC values based on Ingenix cap codes increased in FY 2003 to 774 CPT codes that were used 9,611,441 times.

[7] While Tables 3.2, 3.3, 3.4, and 4.1 only report data for FY 2000 through FY 2003, there are Excel files on the HERC web site that have these data for all years since FY 1998. http://www.herc.research.med.va.gov/ACM.htm.

Table 3.2 VA Utilization by Source for Provider Component of the HERC Value, Fiscal Years 2000-2003

	Number of CPT Codes Used by VA					Number of VA Outpatient Procedures			
Source of Provider Component of the HERC Value	**2000**	**2001**	**2002**	**2003**		**2000**	**2001**	**2002**	**2003**
Total Medicare RBRVS or Ingenix GAP Codes	7,223	7,437	6,399	6,704		96,346,965	100,969,997	108,894,920	114,779,652
Medicare RBRVS or Ingenix, Other Years	56	83	116	96		5,352	160,465	222,688	30,108
Medicare DMEPOS		153	1,342	1,475		-	11,975	326,085	709,402
Other Medicare Fee Schedules	24	38	85	62		7,031	8,964	16,835	10,043
Pharmacy Benefits Management	-	33	11	17		-	14,506	268	787
Cost Pass Through/Bundled	-	388	479	382		-	1,674,145	1,836,673	2,156,087
Dental Charge Surveys	440	48	41	36		2,385,223	101,720	105,397	95,985
California Worker's Compensation System	7	3	1	0		674	3	1	0
Physician Charge Surveys	10	10	1	1		245,960	181,383	16	17
VA Prosthetics	-	-	160	208		-	-	229,317	503,024
Mercer Claims Data	-	-	136	119		-	-	1,863,587	1,906,064
RedBook	64	2	0	0		25,946	3,034	0	0
Non-Standard Codes	1,579	1,546	1,472	1,493		8,229,765	8,033,500	6,458,273	6,465,959
Total	**9,403**	**9,741**	**10,243**	**10,593**		**107,246,916**	**111,159,692**	**119,954,060**	**126,657,128**

Table 3.2 VA Utilization by Source for Provider Component of the HERC Value, Fiscal Years 2000-2003, continued

	Total of Provider Component of the HERC Value, in nominal dollars			
Source of Provider Component of the HERC Value	**2000**	**2001**	**2002**	**2003**
Total Medicare RBRVS or Ingenix GAP Codes	3,178,538,771	3,539,314,181	3,624,896,721	3,777,998,356
Medicare RBRVS or Ingenix, Other Years	391,684	7,214,367	2,874,942	1,756,197
Medicare DMEPOS	-	1,260,014	49,024,950	116,153,166
Other Medicare Fee Schedules	1,115,379	1,890,467	2,196,315	2,108,708
Pharmacy Benefits Management	-	75,389	2,298	97,410
Dental Charge Surveys	199,833,497	5,585,780	5,870,364	5,697,794
California Worker's Compensation System	13,771	68	19	0
Physician Charge Surveys	12,201,892	9,701,334	11,448	12,164
VA Prosthetics Costs	-	-	28,995,694	82,968,239
Mercer Claims Data	-	-	123,164,191	140,833,203
Red Book	10,496,252	29,031	0	0
Non-Standard Codes	350,594,550	381,412,142	261,301,726	384,209,499
Total	**3,753,185,796**	**3,946,482,773**	**4,098,338,668**	**4,511,834,736**

Table 3.3 VA Utilization by Source for Provider Component of the HERC Value, Fiscal Years 2001-2003: Details of the Medicare and Ingenix RVU Schedules

Source of Provider Component of the HERC Value	Number of CPT Codes Used by VA			Number of VA Outpatient Procedures			Total of Provider Component of the HERC Value, in nominal dollars		
Year	**2001**	**2002**	**2003**	**2001**	**2002**	**2003**	**2001**	**2002**	**2003**
Medicare RBRVS subject to global payments	2,173	2,181	2,212	439,234	470,771	488,062	82,077,435	34,360,210	35,340,141
Other Medicare RBRVS	2,034	2,068	2,195	50,768,895	52,742,036	53,627,423	2,554,785,546	2,521,433,033	2,635,193,177
Medicare laboratory fee schedule	911	948	973	38,759,341	44,822,270	48,970,107	410,581,796	587,972,711	597,273,869
Ingenix gap codes	1,674	609	774	8,695,549	8,581,347	9,611,441	322,227,032	334,972,442	370,060,208
Ingenix dental gap codes	424	417	462	2,240,612	2,215,729	2,052,716	164,195,237	141,082,521	137,002,284
Medicare anesthesia RBRVS	221	176	184	66,366	62,767	60,011	5,447,135	5,075,804	4,554,874
Total Medicare RBRVS or Ingenix GAP Codes	**7,437**	**6,399**	**6,800**	**100,969,997**	**108,894,920**	**114,809,760**	**3,539,314,181**	**3,624,896,721**	**3,779,424,553**

3.4 Assignment of Payments to Services Characterized by Non-Standard Codes

Some of the CPT codes used by VA are not normally used to bill for ambulatory care. We made assumptions to estimate a hypothetical payment associated with each of these codes. The following sections describe each coding problem that we encountered, and the assumptions that we made in order to assign a payment.

3.4.1 Codes for Unlisted Services and Procedures

Each group of CPT codes includes a code for "unlisted service or procedure." The designers of the CPT coding system developed these codes for flexibility, to allow coders to represent services that are not otherwise represented with a CPT code.

These codes are widely used by VA. The code for "unlisted hematology and coagulation procedures" was used 1.9 million times in FY 1998, making it one of the 10 most common procedures performed by VA. The CPT codes for unlisted miscellaneous pathology procedure, unlisted microbiology procedure, and unlisted chemistry procedure were each used more than 500,000 times in FY 1998. The use of these codes has steadily decreased over time, but remains large. Over 3.1 million procedures were assigned an unlisted procedures CPT code in FY 2003, compared to more than 6.3 million procedures in FY 1998. Five CPT codes for unlisted laboratory and pathology services remain the core of this problem, with a combined use of almost 2.6 million times.

Neither Medicare, nor any other provider, assigns a standardized RVU or payment to codes for unlisted procedures. Providers are still reimbursed for the services represented by the unlisted procedures costs, with payments established on a case review basis. We did not study the true nature of the services that VA represents with these codes. We assumed that these codes in fact represent services for which there is a more specific CPT code, with an associated RVU. In the absence of more precise information about the services represented by the unlisted codes, we applied the weighted average payment for "similar" procedures, as described below.

For example, we calculated the HERC value for "unlisted hematology and coagulation procedures" as the weighted mean payment of hematology and coagulation procedures performed by VA that were assigned a specific code. The mean was weighted by the frequency of the similar listed codes. We calculated means for each year, using averages weighted by that year's rate of utilization of the listed codes.

3.4.2 Obsolete Codes

VA uses CPT codes that have become obsolete and therefore did not have a payment associated with them in the RBRVS or Ingenix data. These obsolete codes are generated by the annual revisions to the CPT coding system. New codes are added for new services. A single older code may be replaced by two or more new codes that provide greater specificity in describing a service. For example, a recent revision split the CPT codes for a quantitative

laboratory test of amino acids (82130) into three distinct codes, according to the number of amino acids analyzed. Therefore, CPT code number 82130 became obsolete.

There are also cases where a new code number is assigned because of the revised definition of the service.

We examined the payment rates and RVUs assigned to new codes that replaced obsolete CPT codes. Most cases were in three categories:

- When an old code was replaced by a single code, we used the RVU of the new code.

- When a code was split into two or more codes with identical RVUs, we used the new code.

- In some cases, the code was split into two or more new codes with different RVUs, but it was clear which new code applied to VA patients. For example, some of the vaccine codes were split into adult and pediatric doses; we used the RVU for the adult vaccine.

There were a few instances where an old code was replaced by more than one new code with different RVUs. In these situations, there was no clear way to identify which code to use. We used the VA-weighted average payment for these new codes. The incidence of the use of obsolete CPT codes has decreased markedly over time, from 51 CPT codes representing more than 1.6 million procedures coded erroneously in FY 1998 and in FY 1999, to 30 CPT codes that were only used 873 times in FY 2003 (Table 3.4). This does not reflect all obsolete CPT codes. HERC also matches current year CPT codes to previous versions of the Medicare fee schedule and Ingenix gap codes. As shown on Table 3.2, these were used in FY 2003 to establish the HERC value for 96 CPT codes that were used by VA 30,108 times. In details not shown on Tables 3.2 or 3.3, 22 of these CPT codes, representing 9,742 services were CPT codes that were new for 2004, not obsolete CPT codes.

3.4.3 Inpatient Procedures

Medicare has identified CPT codes for services that can only be done on an inpatient basis. Medicare does not reimburse providers for these services when they are provided in the ambulatory setting.

VA used 1,064 different CPT inpatient codes to characterize ambulatory care in FY 1998. Most of these codes were used infrequently, with the exception of 32 CPT inpatient "evaluation and management" (E&M) codes for care in inpatient settings such as skilled nursing facilities. These 32 codes were used to characterize more than 250,000 ambulatory encounters in FY 1998. In the absence of more precise information about the services provided, we assumed that they were actually ambulatory care evaluation and management visits. We assigned these visits a

payment based on the RVUs associated with the corresponding outpatient E&M codes. The use of these inpatient E&M codes decreased to about 85,000 in FY 2003.

The vast majority of the remaining inpatient codes were used fewer than 100 times each; most were used to characterize fewer than 10 visits a year. In the absence of more precise information, these codes were assumed to be coding errors and the services were assigned the average VA payment per CPT code for that category of care. The number of procedures assigned to these other inpatient CPT codes is low in all years, and declines over time from about 13,000 procedures in FY 1998 to about 8,700 procedures in FY 2003.

3.4.4 Pediatric or Obstetric Services

For pediatric codes that had a direct adult equivalent, HERC assumed that this represented a coding error, and the code was matched to its adult equivalent. For example, many of the vaccine codes have separate codes for pediatric and adult doses. These errors occurred with some regularity; in FY 1998 there were 28 such codes that were used a total of 53,920 times. The use of these CPT codes increased to 75,539 procedures in FY 2000, but then decreased to 9,836 in FY 2001.

Pediatric codes that did not have a direct adult equivalent were assumed to be coding errors, and assigned the average VA payment per CPT code for that category of care. All of the pediatric codes that were assigned that average payment were rarely used.

Obstetric codes were examined for their content and frequency of use. Any code that represented services that the VA might provide or that were used more than 100 times was assumed to represent actual provision of services. Those remaining were assumed to be coding errors, and were assigned the average VA payment per CPT code for that category of care (see below). In fact, none of these codes were used more than 35 times in FY 1998, and all but one was used fewer than 10 times. The overall use of these codes is very rare, between 145 to 203 procedures per year.

There was a marked decrease in the use of codes for pediatric or obstetric services not covered by VA in FY 2002. This decline can be attributed to a change in VA benefit rules to include coverage for pregnancy and for some assisted reproductive services. For FY 2002 HERC adjusted its criteria for this group so that it now only includes CPT codes for pediatric, abortion, and ineligible assisted reproductive procedures. As a result, the number of CPT codes in this group decreased to 11 codes that were used by VA only 113 times. As would be expected, VA use of CPT codes for newly covered obstetric services increased. This increased slightly in FY 2003 to 16 CPT codes and 172 services.

3.4.5 Payment Rate for Similar Services

Despite our effort to find payments from a variety of Medicare and private charge schedules and to make assumptions to assign payments to unlisted, obsolete, and certain inpatient codes, a number of codes still did not have an assigned a payment.

We reviewed all remaining CPT codes used by VA more than 100 times to see if we could identify another CPT code that represented the same or a very similar service.

If there was another CPT code that represented the same or a very similar service, we used the RVU for that code to estimate the HERC value. All of the CPT codes that we matched to another CPT code in this manner were reviewed by at least one member of our physician panel, and were only used if a physician agreed that the matching was appropriate. Details on how codes were matched are available from HERC. For example, there is no Medicare or Ingenix RVU for CPT code 75556, which represents a type of cardiac magnetic resonance imaging. Similar services, assigned CPT codes 75552 through 75555, have been assigned RVUs. We chose the RVU for CPT code 75553, as it was the most similar to 75556 in that both required a contrast medium.

We then considered the codes that had not been assigned a HERC value in any of the preceding steps. Each was reviewed to determine whether it was appropriate to assume that the service should be assigned the average HERC value. This review was done regardless of the number of times VA used the code, including codes used very infrequently. We considered whether these services were very expensive (e.g., a custom motorized wheelchair), or very inexpensive (e.g., a disposable syringe). When we deemed it inappropriate to assign an average payment to a service, we obtained a recommendation from a member of our clinician panel about what constituted a similar service, and then used the associated RVU.

The CPT codes for which the payment rate was obtained from similar services are reported on two rows of data in Table 3.4, under "Clinically Similar Code" and "Clinically Similar Payment." The former were used when the clinically similar CPT code had an established Medicare or Ingenix RVU, whereas the latter represented CPT codes where there was a payment rate but not a RVU for the clinically similar code. The number of CPT codes in these two groups has increased from 128 in FY 1998 to 189 in FY 2000, but the number of procedures has declined from 3,674,445 to 2,727,984. Since then there has been a steady increase in both the number of CPT codes in these two groups (289 in FY 2003) and in the number of times VA used these procedures (3,210,048 in FY 2003).

3.4.6 Average HERC Value per CPT Code

The remaining codes were assigned the national average HERC value. We calculated a national average HERC value per CPT code for each category of care. We calculated the mean HERC value by dividing the total payments in the category of care by the number of procedures and services represented by CPT codes in that category. The category of care is based on the type of clinic, identified by clinic stop.

We assigned an average payment to CPT codes for inpatient services and pediatric or obstetric services, as described above. We also assigned the average HERC value to 54,545 occasions of service provided in FY 1998, represented by 124 different CPT codes. The code

most frequently assigned the HERC average payment was the HCPCS code for "non covered item or service" (A9270), which was used 13,131 times. There were six additional codes used by VA more than 1,000 times in FY 1998 that we assigned the average HERC value. Over time, both the number of CPT codes and the number of procedures assigned the HERC average payment increased through FY 2001 to 195 such CPT codes, representing 75,231 services. With the addition of two additional sources of payment data in FY 2002, the number of CPT codes assigned the average HERC value because we could not locate payment information declined to 135 CPT codes, used a total of 35,282 times. This represents more than a 50 percent reduction in the number of CPT codes that HERC could not match to a payment, even though they were valid CPT codes. For 2003, while the number of CPT codes assigned the average HERC value increased to 140 CPT codes, the use of these codes decreased to 25,500 services.

Table 3.4 characterizes non-standard use of CPT codes. It gives the number of VA services represented by a non-standard code, the number of problem CPT codes, and the total provider payment that we assigned to these codes. The numbers in one row of this table were calculated using an approximation, and so the table does not precisely reconcile to Table 3.2.[8]

[8] Services that could not be assigned a value by any other method (including the residual of inpatient and pediatric/obstetric codes) were assigned the mean value of a service for that HERC category of care. The estimate of the total HERC value assigned to these services in Table 3.4 was based on the mean value assigned to the medicine clinic category of care.

Table 3.4 Non-Standard Usage of CPT Codes for Ambulatory Services, by Type of Coding Problem, Fiscal Years 2000-2003

	Number of CPT Codes Used by VA					Number of VA Outpatient Procedures			
Coding Problem	**2000**	**2001**	**2002**	**2003**		**2000**	**2001**	**2002**	**2003**
"Unlisted" Procedures	145	145	109	115		4,907,750	4,884,298	3,396,769	3,125,297
Obsolete Codes	43	44	35	30		288,903	98,846	5,396	873
Inpatient Evaluation and Management Codes	32	32	32	32		162,299	130,758	98,824	85,535
Other Inpatient Codes	922	863	893	845		8,766	8,038	9,664	8,698
Pediatric Codes Changed to Adult Equivalent	32	31	26	26		75,539	33,021	8,813	9,836
Clinically Similar Code	144	139	181	215		1,315,495	1,328,869	1,420,659	1,665,353
Clinically Similar Payment	45	63	50	74		1,412,489	1,474,273	1,482,753	1,544,695
Pediatric or Obstetric Services Not Provided by VA	33	34	11	16		145	166	113	172
HERC Average Payment	183	195	135	140		58,379	75,231	35,282	25,500
Total, Non-Standard Codes	**1,579**	**1,546**	**1,472**	**1,493**		**8,229,765**	**8,033,500**	**6,458,273**	**6,465,959**

	Total of Provider Component of the HERC Value			
Coding Problem	**2000**	**2001**	**2002**	**2003**
"Unlisted" Procedures	141,539,668	148,465,630	120,769,640	91,246,929
Obsolete Codes	11,733,110	9,873,609	783,172	22,399
Inpatient Evaluation and Management Codes	6,043,538	4,729,413	4,120,543	3,469,188
Pediatric Codes Changed to Adult Equivalent	757,042	488,734	391,564	253,843
Clinically Similar Code	24,502,288	28,025,921	26,511,321	33,224,458
Clinically Similar Payment	160,019,328	186,338,749	218,720,638	254,587,357
All HERC Average Payments *	5,999,576	3,490,086	2,093,441	1,334,587
Total, Non-Standard Codes	**350,594,550**	**381,412,142**	**373,390,319**	**384,209,499**

* The values in this row are an approximation, so the total does not exactly reconcile to Table 3.2 (see text)

Chapter 4. HERC Facility Payment

Medicare reimburses healthcare facilities for certain types of ambulatory care. This payment is in addition to the provider payment. The types of facilities eligible for Medicare reimbursement include hospital-based clinics, emergency rooms, freestanding ambulatory surgical centers, federally qualified health centers, skilled nursing facilities, rural health clinics, comprehensive outpatient rehabilitation facilities, home health agencies, and hospices.

Facility reimbursements are a significant expense to Medicare. When care is provided in an ambulatory care facility, Medicare spends about as much on facility payments as it does on physician services. For the HERC value estimates, the total HERC provider payments and the total HERC facility payments were about equal to each other.

We used the prospective payment method implemented by Medicare in 2000 to determine the HERC facility payment. We adapted the Medicare rules to estimate facility payments for services provided by VA that are not covered by Medicare.

4.1 VA Facilities and the Medicare Definition of Facility

All VA acute care hospitals meet the Medicare definition of a "healthcare facility." If VA could bill Medicare, all outpatient care provided at these medical centers would qualify for facility reimbursement. Some VA visits occur in satellite outpatient clinics. These settings may not meet the Medicare definition of a facility.

VA databases may not reliably identify the site where care is provided. The site is characterized using a 5-digit code (STA5N); this variable distinguishes hospital-based clinics from satellite outpatient centers. Unfortunately, visits to satellite clinics that involve laboratory tests run at the parent hospital have sometimes been assigned the hospital location code.

Due to this data problem, and the difficulty in determining which of the hundreds of VA sites meets the Medicare definition of facility, we created the HERC Outpatient Cost File with the assumption that all VA outpatient care would be eligible for Medicare facility payments.

The result is that the HERC value for care provided at satellite clinics may be overstated. This is because Medicare reimbursement is greater when care is provided at a facility.[9]

This overstatement of payments applies to care, such as routine visits that can be provided in either a facility or an office-based practice. The HERC value is an accurate

[9] When care is provided at a facility, the sum of facility and provider reimbursement is greater than the reimbursement to an office-based provider who provides the same service.

statement of Medicare reimbursement for outpatient care that can be provided only in a facility, such as the more complex types of outpatient surgery.

4.2 Identifying Medicare Facility Reimbursement

Medicare adopted a new method of paying ambulatory care facilities in August 2000. This method assigns CPT codes to Ambulatory Payment Classifications (APC). A facility reimbursement was assigned to each APC. Additional information on the Medicare Hospital Outpatient Prospective Payment System is available on the Medicare web page, http://www.cms.hhs.gov/regulations/hopps/default.asp?

We used the new payment method to calculate facility payment rates. For services that are not covered by Medicare, we extended the Medicare method to estimate the appropriate facility payment.

In the past, ambulatory care facilities submitted itemized bills to Medicare. There were no published data on the average bill, or the average Medicare reimbursement for different outpatient services. The new Medicare payment method fills this gap. Medicare studied past payments to determine how much it should pay facilities according to the number and type of services provided.

4.2.1 Care Excluded from APC Reimbursements

Medicare assigned CPT codes representing similar services with similar facility costs to Ambulatory Payment Classification (APC) groups. Medicare found the average facility reimbursement for each APC from historical payment data.

Under the Medicare rules, the following types of care are not eligible for facility payments:

- Procedures where the facility reimbursement comes from the APC payment for another CPT code. For example, facilities do not receive an APC payment for anesthesia CPT codes, since the payment is included in the APC associated with the procedure.

- Services in which the facility payment is included with provider reimbursement. Examples of this include laboratory tests, dialysis, and medical supplies.

- Procedures that can only be provided in an inpatient setting.

The VA use of CPT codes which are not eligible for facility payments increased from 3,326 CPT codes that were used for 31,369,907 procedures in FY 1998 to 4,625 CPT codes representing 77,586,760 procedures in FY 2003.

4.2.2 Implementation of the APC Method to VA Data

HERC followed Medicare rules in estimating facility payments. We extended Medicare rules to estimate facility payments for services not covered by Medicare.

For FY 1998-2000 the primary sources of payment rates were based on the APC rules from 2000, the first year in which Medicare used the APC to calculate facility payments. We also used the new APC categories created for 2001. We adjusted APC payments for the year that the service was provided. We used RBRVS conversion factors as our index. We multiplied the APC payment by a ratio equal to the conversion factor for the year of the visit, divided by the conversion factor for the year of the APC payment.

When a visit involves several CPT codes, the facility receives an APC payment for each code. In the case of multiple procedures, the APC payments for many surgical procedures are reduced by 50%. However, the APC payment for a surgical procedure is not reduced if it is the largest APC payment for the visit. From the FY 1998 data there were 1,317 CPT codes used 44,495,645 times that had APCs not subject to discounting. For APCs that were subject to discounting, VA used 2,807 CPT codes 1,799,884 times. While the number of CPT codes used in each of these categories has increased somewhat over time, the number of procedures were relatively stable over time. Table 4.1 has the data for each source of payment data for FY 2000-2003.

Starting with the FY 2001 data, the main source of APC payments was adjusted so that the fiscal years of the utilization data and the APC payments match. When APC payment rates were not available for the current fiscal year, APC payment rates from other fiscal years were used if they were available.

As Medicare has refined the APC payment system, more CPT codes have been assigned to an APC. In FY 2003 there were 3,003 CPT codes with APC payments subject to discounting, that the VA used 2,243,353 times. These are up from 2,836 CPT codes, representing 1,982,048 procedures in FY 2000. The increase in the use of CPT codes with Medicare APC payments not subject to discounting has been even greater. There were 1,638 CPT codes used by VA 44,182,704 times in FY 2003, compared to 1,424 CPT codes used 43,699,342 times in FY 2000.

4.2.3 Other Codes without Facility Payment

VA used many codes that are not covered by Medicare and have not been assigned an APC. We first considered whether a facility payment was appropriate. We applied the Medicare rule and excluded laboratory tests, dialysis, most dental services, and medical supplies from further consideration. We excluded procedures like anesthesia whose facility reimbursement comes from the APC payment for another CPT code. There were 3,326 CPT codes representing 31,369,907 encounters or procedures in FY 1998 for services where APC payments were not allowed. The number of CPT codes where APC payments were not allowed has increased over time; in FY 2003 there were 4,625 such CPT codes representing 77,586,760 procedures. There was a large growth in the number of CPT codes and procedures with no APC payment, especially between FY 2002 and FY 2003. Much of this shift can be attributed to Medicare formally classifying services as not eligible for APC payment for which we had previously estimated a facility payment from gap code facility practice expense RVUs.

Following the methods used for provider payments, we examined the CPT codes that did not have a Medicare-assigned APC to see if there was a similar procedure that had an APC payment. For example, Medicare reimburses facilities for some, but not all types of imaging tests. When this occurred, we assigned the APC payment for the similar service, and had a clinician review them. A complete list of these codes is available from HERC. In FY 1998 assumptions were made in the assigning of APCs for 88 CPT codes used 313,189 times. This increased to 215 CPT codes representing 475,732 procedures in FY 2001. For FY 2003 there were 176 CPT codes representing 975,411 procedures without APC payments that were matched to similar CPT codes with an APC payment.

4.2.4 Gap Codes—Facility Payments for Services not Covered by Medicare

We considered what facility value was appropriate for the remaining CPT codes that we believed should be assigned a facility payment but which were not assigned an APC group by Medicare.

We first considered gap-code services that included an RVU for practice expense and could be provided in an office-based setting. We assumed that an APC payment was appropriate. We calculated a facility value based on the practice expense RVU. We assumed that the facility payment should be proportionate to the provider practice expense payment.

We adjusted the provider practice expense to reflect the higher cost of facilities. We estimated the amount of this adjustment by studying Medicare covered services that had both a facility payment based on an APC group, and a provider practice expense for office-based providers. The median ratio of APC facility payment to provider practice expense payment was 2.22. We applied this ratio to estimate facility payments for gap-code code services provided in office-based settings. In FY 1998 this method was used for 171 CPT codes representing 15,591,001 services. The need for this method has been fairly stable over time; in FY 2002 it was used for 160 CPT codes representing 14,535,735 procedures. With the change noted above, this method was not used for any CPT codes in FY 2003.

4.2.5 1997 Medicare Facility Payments

We also examined the 1997 Medicare RBRVS to look for practice expense payments for CPT codes not listed in the 2000 RBRVS. We used the same method to calculate a facility payment from the practice expense RVU (see previous section). This method yielded a facility payment for 46 CPT codes that were used 88,419 times in FY 1998. The number of CPT codes and frequency of use for this data source decreased markedly in subsequent fiscal years. In FY 2001 it was only used for six CPT codes, representing 2,701 services. The 1997 Medicare facility payments were not used for any CPT codes in FY 2002. But, in FY 2003 the 1997 Medicare facility payments were used for 12 CPT codes representing 109 services.

4.2.6 Codes for Unlisted Services and Procedures

Medicare did not initially assign an APC payment to some CPT codes for unlisted procedures. We assumed that these codes represented services for which there was a

more specific CPT code, with an associated APC. For these missing codes, we applied the weighted average facility payment for similar procedures. The weights were the frequency of VA use of each of the similar procedures. This was applied to seven CPT codes that were used 301,907 times in FY 1998. In FY 2002 this method was applied to six CPT codes, but the frequency of use had increased to 819,918 procedures. This method was used much less often for facility payment than for provider payment because Medicare assigned APCs to many of the unlisted procedure codes. For FY 2003 Medicare had assigned an APC payment to all of the unlisted procedure codes used by VA. Thus, this method was not used to assign any facility payments in FY 2003.

4.2.7 Obsolete Codes

We examined the APC values for the new codes that replaced obsolete CPT codes. When an obsolete code was replaced by two or more codes with identical APC payments, we used this payment. When it was clear which new code should be used, we used the APC payment for that code. For example, the CPT codes for laparoscopy were reassigned from a single block of CPT codes (56300-56323) to individual CPT codes that corresponded to each specific laparoscopic procedure. Instead of being grouped as a single block for laparoscopic procedures, these new codes were grouped with the specific organ systems for each procedure. In FY 2002 this correction was applied to 44 obsolete CPT codes representing 1,539,459 procedures. These numbers were very similar in FY 2003, 56 CPT codes and 1,544,849 procedures.

4.2.8 Inpatient Codes

As noted in Chapter 3, there were 32 different inpatient Evaluation and Management (E&M) CPT codes assigned to VA outpatient visits. We used the facility payment of the APC of the corresponding outpatient E&M codes.

4.2.9 Average HERC Facility Payment per CPT Code

Other codes that were assigned the average HERC provider payment were simply assigned the national average HERC facility payment for that category of care. For FY 1998 these were the 1,032 inpatient CPT codes, the 35 pediatric or obstetric CPT codes for services not provided by VA, and the 122 CPT codes that we could not match to any payment data, for a total of 1,189 CPT codes. As is noted in Chapter 3, the number of CPT codes and procedures assigned to these three categories was relatively stable over time through FY 2001, and has declined in the last two years. In FY 2003 there were 1,001 CPT codes that were used a total of 34,370 times assigned to average HERC facility payments. We calculated a national average HERC facility payment per CPT for each category of care. We calculated the mean HERC facility payment by dividing the total facility payments in the category of care by the number of procedures and services represented by CPT codes in that category. The category of care is based on the type of clinic (for clinic stops, see Chapter 2).

Table 4.1 indicates the source of information used to calculate the facility component of the HERC value. It gives the number of CPT codes involved and the number of procedures. This table provides information about the relative importance of the assumptions described above. The table does not include information on the dollar

amount of the facility-component HERC values. This is because the APC payment for a given CPT code varies according to the other codes that were assigned in the same visit. The facility payments associated with each of the sources of the HERC value were not tracked in the creation of the HERC outpatient cost data sets. With the application of the Medicare rules for discounting APC payments, the total of the HERC values for facility payments for FY 2002 was $3.5 billion. Thus, facility payments comprised almost half of the total HERC value.

Table 4.1 Facility Component of HERC Value by Source FY 2000-2003

	Number of CPT Codes Used by VA					Number of VA Outpatient Procedures			
Source of Facility Component of HERC Value	**2000**	**2001**	**2002**	**2003**		**2000**	**2001**	**2002**	**2003**
Medicare 2000 APC Payments Subject to Discounting	2,836	2,883	2,944	3,003		1,982,048	2,021,943	2,138,709	2,243,353
Medicare 2000 APC Payment	1,424	1,571	1,611	1,638		43,699,342	44,436,930	45,760,235	44,182,704
Codes With No APC Payment	3,572	3,718	4,020	4,625		44,339,498	47,245,376	54,277,219	77,586,760
APC Estimated from VA Prosthetics Payments			98	50				1,346	4,037
Matched to Similar CPT Code	107	215	282	176		387,898	475,732	737,555	975,411
Ingenix GAP Codes	171	167	160	0		14,591,338	14,412,775	14,535,735	0
Medicare 1997	18	6	0	12		2,771	2,701	0	109
"Unlisted" Procedures	7	6	6			437,600	773,899	819,918	0
Obsolete Codes	101	51	44	56		1,576,832	1,576,143	1,539,459	1,544,849
Inpatient E&M codes	32	32	32	32		162,299	130,758	98,824	85,535
Average HERC Facility Payment	1,138	1,092	1,040	1,001		67,290	83,435	45,060	34,370
Total	**9,406**	**9,741**	**10,237**	**10,593**		**107,246,916**	**111,159,692**	**119,954,060**	**126,657,128**

Chapter 5. User's Guide to the HERC Outpatient Cost Files

5.1 Overview of the HERC Outpatient Cost Files

We estimated the hypothetical third-party reimbursement of every record in the VA outpatient events file. We call this the "HERC value." We estimated this payment based on CPT codes as described in Chapters 3 and 4.

For each outpatient visit, we also determined a "National Cost Estimate" and a "Local Cost Estimate." We created these cost estimates by adjusting the HERC value to reflect VA's actual expenditures for ambulatory care, as described below.

5.1.1 Limitations of HERC Outpatient Cost Estimates

They do not contain pharmacy utilization, payments, or cost. The SE file does not contain data for outpatient pharmacy services, and we did not estimate pharmacy payments or costs. Data on the use of VA outpatient pharmacy services are available from the PBM and DSS data files.

They contain incomplete data on prosthetics services. We believe that prosthetics services are underreported in the VA outpatient database. We only estimated the HERC value for visits to VA prosthetics clinics; our national and local estimates of prosthetic costs are simply a restatement of those payments.

HERC values and cost estimates do not reflect VA practice patterns or productivity. The HERC values are based on Medicare and other reimbursement schedules. The HERC cost estimates rescale these payments to reflect costs reported in the VA Cost Distribution Report. These estimates do not reflect the effect of VA practice patterns or staff productivity with respect to providing any particular procedure or service. Analysts who wish to determine the effect of practice patterns or provider productivity on resource use will need to undertake staff activity analysis, a method sometimes referred to as micro-costing. For more information on micro-cost methods, see the HERC micro-cost methods guidebook on the publications section of the HERC web page, http://www.herc.research.med.va.gov/Pubs.htm

5.2 Applying for Access to Use the HERC Outpatient Files

To gain access the HERC Outpatient Cost Files, you must have a VA account to use the Austin Automation Center. You must register with HERC to use HERC average cost data and you must also submit a request for permission to access the HERC data to your AAC "Point of Contact (POC)." For more information on registering to use HERC data, visit the web site at www.herc.research.med.va.gov/nondisclosure_form.htm. To locate your POC, call the **AAC Help Desk** at **(512) 326-6780.**

Submit a Time Sharing Access Request (form VA-9957) to request access to the HERC Outpatient Cost Files. Be sure to specify the "functional task code" for the HERC files, which is available from HERC.

5.3 Names of the HERC Outpatient Cost Files

The HERC Outpatient Average Cost Files are stored at the Austin Automation Center (AAC). The MVS/TSO names of each file, and the number of records it contains, are as follows:

Table 5.1 HERC Outpatient Average Cost Files, Fiscal Years 2000-2003

Year	File Name	Number of records
FY2000	RMTPRD.HERC.SAS.OPCSE00	63,637,301
FY2001	RMTPRD.HERC.SAS.OPCSE01	60,962,621
FY2002	RMTPRD.HERC.SAS.OPCSE02	64,477,062
FY2003	RMTPRD.HERC.SAS.OPCSE03	68,148,617

5.4 Variables in the HERC Outpatient Cost Files

The table below has the names and brief descriptions of variables in the HERC Outpatient Cost Files.

Table 5.2 Variables in the HERC Outpatient Cost Files

Variable	Label	Source
SCRSSN	Scrambled Social Security number	Outpatient Events (SE) file
STA5A	Medical Center (3-digit station code with 2-digit location suffix)	
VIZDAY	Date of visit	
CL	3-digit code indicating the type of clinic visited	
ENCOUNTER_ID	Unique VHA Encounter ID (not available before FY 2003)	
LINK2SE	The observation number of this visit in the outpatient events file (SE). Only included FY 1998 – FY 2002	Created by HERC
CAT	HERC Category of outpatient service	
PAYMHERC	HERC value for this visit	
COSTN	National VA average cost for this visit	
COSTL	Local VA average cost for this visit	
PAYMPROV	Provider component of HERC value for this visit	
PAYMFACLQ	Facility component of HERC value for this visit	
IMP	Number of CPT codes in this visit assigned the mean HERC value per CPT code for this category of care	

5.4.1 Variables in Common with the Outpatient Events (SE) File

The HERC Outpatient Cost Files have four variables in common with the VA outpatient events file. These variables identify the visit. They include the patient's

scrambled social security number (SCRSSN), the site where care was provided (STA5N) the date of service (VIZDAY), and the type of clinic visited as identified by the 3-digit clinic stop code (CL).

5.4.2 Link Variable

The link variable the serves as the identifier for each record is not constant over time. There is one variable for FY 1998 – Fy 2002, and a new variable starting in FY 2003. Prior to FY 2003, HERC created this variable from the SAS observation number. As a result, this number could change if the SE file was rebuilt. Starting with FY 2003, a unique identifier for each record in the SE file, ENCOUNTER_ID, was added to the Outpatient Events file. This variable is common to both the HERC Outpatient Cost Files and the SE file, allowing them to be merged.

Prior to FY 2003, the link variable (LINK2SE) is the observation number of the visit in the outpatient events file. This variable is needed to link the HERC Outpatient Cost File with the Outpatient Events file. The variables SCRSSN, STA5N, VIZDAY, and CL do not uniquely define a particular outpatient visit, as a patient may visit a particular clinic stop at a given site two or more times on a given day. The use of the link variable to merge the two datasets is described below. With the creation ENCOUNTER_ID, this variable is not included in the HERC Outpatient Cost File starting with FY 2003.

5.4.3 Category of Care

Each visit was assigned to a "HERC Category of Care" (CAT) based on the location where the service was provided. VA identifies the location of care using a 3-digit code, the DSS identifier (formerly called the clinic stop). We defined 13 categories of care, as described in Chapter 2. In addition, "Unidentified Stops" was added as a fourteenth category for FY 2001.

Category 26, outpatient pharmacy, is never used in the HERC outpatient dataset. Although the CDR reports the cost of pharmacy, pharmacy utilization does not appear in VA outpatient databases. Analysts who need estimates of pharmacy cost are encouraged to use the VA Pharmacy Benefits Management (PBM) database, or the pharmacy files in the national financial extracts from the VA Decision Support System (DSS). See Smith and Joseph (2003) for more information about VA pharmacy data.

It also appears that utilization of VA prosthetics care is under-represented in the VA outpatient database. We treated prosthetics differently when we estimated national and local costs. Analysts who need accurate estimates of prosthetics care should turn to the VA National Prosthetics Patient Database.

Table 5.3 HERC Outpatient Categories of Care

Category Number	Category Name
21	Outpatient Medicine

22	Outpatient Dialysis
23	Outpatient Ancillary Services
24	Outpatient Rehabilitation
25	Outpatient Diagnostics Services
26	Outpatient Pharmacy
27	Outpatient Prosthetics
28	Outpatient Surgery
29	Outpatient Psychiatry
30	Outpatient Substance Abuse Treatment
31	Outpatient Dental
32	Outpatient Adult Day
33	Home Care
99	Unidentified Stops

Since visits assigned to the Unidentified Stops category have HERC costs but not CDR costs associated with them, the sum of the HERC costs will exceed the total outpatient costs reported in the CDR. In FY 2001 the total of the HERC values assigned to these 47,924 visits was $6,077,996. Since this represents only 0.06 percent of the $9.7 billion of outpatient costs in the CDR, the net effect of this error is very small. With the HERC reassignment of some of the unidentified stops to other categories in FY 2002, the number of visits assigned to the Unidentified Stops category declined to 9,521 visits with a total HERC value of $1,006,671. This increased to 17,656 visits with a total HERC value of $3,233,508 in FY 2003

5.4.4 HERC Value

The "HERC value" (PAYMHERC) is based on the CPT codes assigned to the visit. It is the sum of the provider and facility payment, as described in Chapters 3 and 4. Wherever possible, we used the Medicare payment method at the national average reimbursement rate. For services not reimbursed by Medicare, we used one of several other sources. These include the "gap code RVUs" created by Ingenix Corp, data from surveys of physicians and dentists, and other sources. For a limited number of CPT codes, we used the mean payment for similar codes or the mean payment per CPT codes for that category of care.

The HERC value is a useful estimate of the cost of care from the perspective of the average healthcare payer. It might be used to understand the implications of a cost-effectiveness result for the entire U.S. healthcare system. However, the HERC value should not be used to understand the cost of particular site, or to determine the effect of an innovation at a particular site.

5.4.5 National Cost Estimate

The "National Cost Estimate" (COSTN) was created to reflect VA national expenditures in each category of care. It is the HERC value multiplied by a factor specific to the category of care for the visit. This factor was constructed so that the sum of the "National Cost Estimates" for visits in each category of care is equal to the actual VA expenditures for that category, as reported in the Cost Distribution Report (CDR).

To find the "National Cost Estimate," the HERC value was multiplied by a ratio of costs to payments. A separate ratio was calculated for each category of care. The ratio was found by dividing the national total expenditures reported in the CDR in that category by the national total of HERC values for that category. We used ratios for 11 of the 14 categories; no ratio was used for pharmacy, prosthetics, or unidentified stops. For FY 2003 these ratios scaled the $8.0 billion total of the HERC values down to the $7.7 billion allocated to these categories in the CDR. An Excel file with these ratios for all years of the HERC Outpatient Cost file is on the HERC web site at: : http://www.herc.research.med.va.gov/ACM.htm.

We did not use the ratio of cost to payments for the prosthetics or unidentified stops categories of care; instead we simply substituted the HERC value (that is, we assumed a ratio of one). We found that the HERC values generated by visits in the prosthetics category represented about 30% of VA expenditures for prosthetics. We believe that this is because the prosthetics workload is not fully incorporated into VA outpatient files. Analysts who wish to have an accurate assessment of prosthetics care should turn to the VA National Prosthetics Patient Database.

5.4.6 Local Cost Estimate

The "Local Cost Estimate" (COSTL) was created to reflect VA expenditures for ambulatory care at a particular medical center. It is a further refinement of the national cost estimate. We multiplied the "National Cost Estimate" by a factor for that particular medical center. This factor was calculated so that the sum of the "Local Cost Estimates" for visits to a particular medical center was equal to the actual VA expenditures for ambulatory care of that medical center, as reported in the CDR. Because we used the "National Cost Estimates" as our basis, the sum of the "Local Cost Estimates" for visits in each category of care will approximately equal the total national expenditures for each category.

The factor used to find the local cost estimate was a medical-center-specific ratio of costs to national cost estimates. For each medical center, we found the sum of the "National Cost Estimates." This was divided by the sum of the ambulatory care expenditures for that medical center as reported in the CDR. Prosthetics, pharmacy, and "unidentified stops" categories of care were excluded when these ratios were calculated. The "Local Cost Estimate" for prosthetics and "unidentified stops" categories is simply the HERC value for those visits.

The local cost estimates were created with the assumption that the parent medical center and satellite clinics incur identical costs for the same type of care. Local estimates reflect expenditures and utilization reported with the 3-digit facility identifier (STA3N). VA also identifies facilities with a 5-digit facility identifier (STA5A). The quality of information incorporated in this more specific location variable is uncertain, so we decided not to use it.

5.4.7 Provider Component of HERC Value

The provider component of HERC value (PAYMPROV) is also provided.

5.4.8 Facility Component of HERC Value

The facility component of the HERC value (PAYMFACL) is also given. Note that the provider and facility component of the HERC value equal the total HERC value.

5.4.9 Count of Codes Assigned Average Payment

The variable IMP contains the number of CPT codes in the record for which the HERC value was estimated. The estimate payments for these CPT codes were the mean payment per CPT code for the HERC category of care where the visit occurred.

5.5 Linking the HERC Outpatient Cost Files to the Outpatient Events File for FY 1998 through FY 2002

In response to problems that some users were having linking the HERC Outpatient Costs files to the Outpatient Events file, HERC revised its suggested method to link these data in March 2003. The description below reflects these revisions.

We estimated the cost of each visit recorded in the VA Outpatient National Patient Care Database events file (also known as the NPCD or SE file). The HERC cost estimates are in a file with five variables that identify the visit. The HERC file does not duplicate any of the other fields that are found in the SE file. Analysts who wish to obtain more information about the visit (such as diagnosis or procedures) or the patient (such as demographic variables) must obtain this information from the SE file. This requires merging of the HERC outpatient file with the SE file.

The SE file has four variables that characterize each visit: the patient's scrambled social security number (SCRSSN), the site where care was provided (STA5N), the date of service (VIZDAY), and the location of care, or clinic stop (CL). These four variables do not uniquely define a particular outpatient visit, however. This is because a single patient may visit a particular clinic stop at a particular site two or more times on a given day. This is not an infrequent occurrence; about 34% of the records in the SE file share values for these four variables with another record. Another variable is needed to uniquely define each visit.

There are three steps to find the HERC cost of outpatient visits for a cohort of patients: (1) define your cohort, (2) create a file of their visits from the outpatient events file, and (3) combine your extract from the event file with HERC cost data.

1. Define your cohort.

The VA Information Resource Center (VIREC) can provide you with instructions on how to obtain a scrambled social security number from a true social security number (the VA medical record number). Your cohort file might include other key variables: the patient's birth date, the date they enrolled in your study, and the date that they completed the study.

2. Create a file of their visits from the outpatient events file.

The next step is to identify visits to VA providers by your cohort members. These visits are recorded in the VA outpatient events file (also known as the Medical SAS Outpatient Dataset of the National Patient Care Database, or the SE file).

Use SAS to merge your cohort list with the outpatient events file. You will merge files by patient scrambled social security number (SCRSSN). Since social security numbers are sometimes transcribed incorrectly, you should confirm that you have identified the correct patients by checking that the birth date that you obtained when the subject enrolled in your study is the same as the birth date recorded in the events file (the variable named DOB).

You must also create a new variable, LINK2SE, in order to find the HERC cost estimate. LINK2SE is the record number in the outpatient events file. The following SAS code shows how to select visits from the NPCD and define LINK2SE.

```
PROC SORT DATA=COHORT;
BY SCRSSN;

DATA OUT1.COHEVENT;
MERGE COHORT (IN=INCOHORT) IN.SE00 (IN=INEVENT);
  BY SCRSSN;

IF INEVENT THEN DO;
  IF LINK2SE=. THEN LINK2SE=1;
  ELSE LINK2SE=LINK2SE+1;
END;
RETAIN LINK2SE;
IF INCOHORT AND INEVENT;
```

The program starts by sorting the cohort file by the scrambled social security number (SCRSSN). The events file is already sorted by this variable. **Do not sort the events file. It is a very large file, and it is quite costly to sort it.**

The SAS data step merges the two files based on SCRSSN. The variable INCOHORT takes a value of true (numeric value of 1) if the record is in the cohort file. The variable INEVENT takes a value of true if the record is in the events file. The statement "IF INCOHORT AND INEVENT" will select the events file records of all members of the cohort, and none of the records of any other patient.

The LINK2SE variable is defined only if the data step involves a record in the events file. When the first record in the NPCD visit dataset is encountered, LINK2SE

doesn't have a value (LINK2SE=missing). The program assigns it a value of 1. LINK2SE is retained for the next and subsequent SAS data steps. For all subsequent times an NPCD record is encountered, the value of LINK2SE is incremented by 1. If there is patient in the cohort file who is not found in the NPCD dataset, the value of LINK2SE is simply carried forward unchanged.

Caution: When selecting records from the events file using a cohort file, it is best not to use the SAS variable _N_ to define LINK2SE. If _N_ is used, and there is a patient in your list who is not found in the visits file, LINK2SE will be incorrect. The SAS variable _N_ is a count of the iterations of the data set. When SAS reads the record of the patient who is not in the NPCD outpatient file, a data step occurs, and _N_ is incremented. For all subsequent records in the NPCD file, the value of _N_ will be not correspond to the record number in the file.

3. Combine your extract from the event file with HERC cost data.

```
DATA OUT2.SECOST00 EXCLUDED;
MERGE
    IN1.OPCSE00 (RENAME=(STA5A=HCSTA5A SCRSSN=HCSCRSSN
          VIZDAY=HCVIZDAY CL=HCCL) IN=INHERC)
    IN2.COHEVENT (IN=INSE);
  BY LINK2SE;
IF INSE AND INHERC THEN OUTPUT OUT2.SECOST00;
ELSE IF INSE=1 THEN OUTPUT EXCLUDED;
```

This data set merges your the outpatient events file extract (IN2.COHEVENT) with the HERC cost file (IN1.OPCSE00), using the LINK2SE variable. Both datasets are already sorted by this variable, so it is not necessary to sort them. Both files contain the variables station identifier (STA5A), scrambled social security number (SCRSSN), visit day (VIZDAY), and clinic stop (CL). These variables from the HERC cost file are renamed so that, in a subsequent step, we can confirm that the merge was done correctly. The file EXCLUDED contains records that appear in your cohort visits file but not in the HERC file.

```
DATA CHECK1;
SET OUT2.SECOST00;
  IF HCSCRSSN NE SCRSSN
  OR CL NE HCCL OR VIZDAY NE HCVIZDAY OR HCSTA5A NE STA5A;
****NOTHING SHOULD PRINT HERE;
PROC PRINT DATA=CHECK1;
```

This data step determines whether the HERC cost records have matched the correct records from the events file. The file CHECK1 should not have any records.

While it is possible to merge data from the HERC and SE files using only the LINK2SE variable, users should **always** validate the merged file by running the CHECK statements included in the sample program. The DATA CHECK should be an empty file if the merge is correct. After validating the merged file, the four variables: HCSCRSSN, HCVIZDAY, HCCL, and HCSTA5A, may be dropped from the merged file. Note that there are different versions of the check step for FY 1999 and FY 2000 because HERC excluded a small number of records from the HERC data for these years. If a user runs the provided program for FY 1999 or FY 2000 data without using the CHECK steps specific to each of these years, the excluded observations could show up in the check data set.

```
******CHECK2A******************;
*** IF USING FY99 DATA THIS SET SHOULD BE EMPTY**;
DATA CHECK2A;
SET EXCLUDED;
IF CL IN (610,731) THEN DELETE;
****NOTHING SHOULD PRINT HERE;
PROC PRINT DATA=CHECK2A;

******CHECK2B******************;
*** IF USING FY00 DATA THIS SET SHOULD BE EMPTY**;
DATA CHECK2B;
SET EXCLUDED;
IF CL IN (610,650,731) THEN DELETE;
****NOTHING SHOULD PRINT HERE;
PROC PRINT DATA=CHECK2B;
```

5.5.1 Notice Regarding Linking Fiscal Year 2000 Data

Any patient cohort data pulled from the FY 2000 SE file **before** November 2002 will no longer correctly link to the HERC Outpatient Average Cost Dataset for FY 2000. After the FY 2000 SE file was officially closed by Austin, errors were discovered that caused the Austin custodians of these data to rebuild the file. This resulted in a change in the number of observations in the FY 2000 SE data. Thus, the HERC LINK2SE variable in the original HERC dataset could no longer be used to link to the SE file. HERC recreated the HERC Outpatient Average Cost Dataset for FY 2000 so that the LINK2SE variable in the HERC data correctly corresponds to the SE file at Austin. Because the LINK2SE variable was created using the revised number of observations, any patient

cohort data pulled from the FY 2000 SE file before November 2002 will no longer correctly link to the HERC Outpatient Average Cost Dataset for FY 2000.

5.6 Linking the HERC Outpatient Cost Files to the Outpatient Events File, FY 2003

Starting in FY 2003, a new variable, ENCOUNTER_ID, was added to the SE data that provides a unique identifier for each record in the SE file. As a result, HERC has changed the recommended method for linking the HERC Outpatient Cost File to the Outpatient Events (SE) File. This section describes the new method, including example SAS code.

As in the previous years linking program, the program starts by sorting the cohort file by the key variable of scrambled social security number(SCRSSN)—checking for and removing any duplicate values.

```
PROC SORT DATA=COHORT NODUPKEY;
  By SCRSSN;
RUN;
```

The SAS DATA Step merges the cohort file and Austin SE 03 file as done previously. Scrambled Social Security matches are outputed to a match file—in this case COHEVENT--by the Boolean flags of InCohort and InEvent. Observations found only in the cohort and not in the SE event file are outputed to Excluded01. With the inclusion of the unique Encounter_ID variable, the LINK2SE steps are no longer necessary.

```
DATA OUTPUT1.COHEVENT EXCLUDED01;
  MERGE
    COHORT(IN=InCohort)IN.SE03 (IN=InEvent);
    By SCRSSN;
    IF InCohort AND InEvent THEN OUTPUT OUTPUT1.COHEVENT;
      ELSE IF InCohort THEN OUTPUT EXCLUDED02;
RUN;
```

Though a precautionary measure that maybe omitted, the SORT procedure may avoid an Out of Sort Order error in the following merge step.

```
PROC SORT DATA=IN1.COHEVENT;
  By SCRSSN VIZDAY STA5A ENCOUNTER_ID;
RUN;
```

The DATA Step merges the outpatient events file extract (In2.COHEVENT) with the HERC cost file (IN1.OPCSE03), using the key variables of Scrambled Social Security Numbers(SCRSSN), Day of Visit(VIZDAY), Station identifier(STA5A), and unique Encounter Identification(ENCOUNTER_ID). The additional key variable of Encounter_ID eliminates the need and ability for post merge validation.

```
DATA OUTPUT2.SECOST03 EXCLUDED02;
  MERGE
    IN1.COHEVENT(IN=InSE)
    IN2.OPCSE03  (IN=InHERC);
      By SCRSSN VIZDAY STA5A ENCOUNTER_ID;
        IF InSE AND InHERC THEN OUTPUT OUTPUT2.SECOST03;
          ELSE IF InSE THEN OUTPUT EXCLUDED02;
RUN;
```

Chapter 6. Data Validation

We validated the HERC ambulatory care file to determine whether the following were true:

- Every visit in the SE file was represented in the HERC outpatient cost file.
- Every CPT code in the SE file was assigned a payment in the HERC outpatient cost file.
- The sum of the national cost in each category of care in the HERC outpatient cost file equaled the sum of costs reported in the CDR for that category of care.
- The sum of the local cost at each medical center in the HERC outpatient cost file equaled the total cost reported in the CDR for that medical center.

Table 6.1 Reconciliation of HERC Outpatient Cost and NPCD SE File; Fiscal Years 2000 - 2003

Fiscal Year	Number of Records in SE File	Number of Records in HERC File w/Costs	Number of SE Records Not in the HERC File
2000	63,644,504	63,639,920	4,584
2001	60,962,621	60,962,621	0
2002	64,477,062	64,477,062	0
2003	68,148,617	68,148,617	0

Table 6.1 demonstrates that the HERC files have the same number of records that appear in the outpatient events files, except for those records explicitly excluded in FY 2000. In FY 2000, the outpatient events files included records for clinic stops that represent inpatient or contract services provided by non-VA providers. Because these visits represented care not included in the CDR outpatient costs, we elected to deem them "invalid," and did not assign them a HERC value or cost. As noted in Chapter 2, there was a large increase in the number of records we could not match to CDR outpatient costs. Starting with FY 2001 these visits were assigned to the "Unidentified Stops" category. See Chapter 5 for information on the total costs assigned to the unidentified stops.

Tables 6.2 through 6.5 report the reconciliations of national costs between HERC outpatient costs and the CDR costs by category of care for each fiscal year. Due to problems described above, the outpatient pharmacy, prosthetics, and unidentified stops categories are not included in these tables. Tables 6.6 through 6.9 report the

reconciliations of local costs between HERC outpatient costs and CDR costs by VA Station for each fiscal year.

We also examined descriptive statistics for the estimated costs for each CPT code and for each encounter. There is a very large range in the set of HERC values, with a low of $0.12 and a high of $17,550.04. We confirmed that these were correct; the $0.12 was for a HCPCS payment rate for a simple bandage. The $17,550.04 was for a custom motorized wheelchair.

Table 6.2 Reconciliation of National Costs between HERC Outpatient Costs and the Cost Distribution Report (CDR) by Cost Category; Fiscal Year 2000

	CATEGORY	CDRCOST	HERC COST	DIFFERENCE
21	MEDICINE	2,310,789,310	2,310,788,617	693
22	DIALYSIS	97,494,620	97,494,612	8
23	ANCILLARY	195,494,112	195,494,098	13
24	REHABILITATION	264,348,590	264,348,678	-88
25	DIAGNOSTIC	759,051,648	759,051,354	294
28	SURGERY	758,737,263	758,737,655	-392
29	PSYCH	599,024,008	599,023,894	114
30	SUBSTANCE ABUSE	182,696,246	182,696,196	50
31	DENTAL	186,487,626	186,487,540	86
32	ADULT DAY CARE	10,224,767	10,224,765	2
33	HOME CARE	173,086,964	173,086,966	-2

Table 6.3 Reconciliation of National Costs between HERC Outpatient Costs and the Cost Distribution Report (CDR) by Cost Category; Fiscal Year 2001

	CATEGORY	CDRCOST	HERC COST	DIFFERENCE
21	MEDICINE	2,596,837,176	2,596,837,821	-645
22	DIALYSIS	100,189,460	100,189,409	51
23	ANCILLARY	219,072,191	219,072,102	88
24	REHABILITATION	296,117,043	296,117,056	-13
25	DIAGNOSTIC	820,843,650	820,844,243	-593
28	SURGERY	854,829,527	854,829,728	-201
29	PSYCH	658,190,250	658,189,936	314
30	SUBSTANCE ABUSE	201,699,642	201,699,551	91
31	DENTAL	201,565,777	201,565,705	72
32	ADULT DAY CARE	11,918,193	11,918,189	3
33	HOME CARE	205,559,034	205,559,026	8

Table 6.4 Reconciliation of National Costs between HERC Outpatient Costs and the Cost Distribution Report (CDR) by Cost Category Fiscal Year 2002

	CATEGORY	CDRCOST	HERC COST	DIFFERENCE
21	MEDICINE	2,813,652,599	2,813,652,773	-174
22	DIALYSIS	102,545,580	102,545,593	-13
23	ANCILLARY	227,751,415	227,751,288	127
24	REHABILITATION	301,688,261	301,688,271	-10
25	DIAGNOSTIC	870,390,437	870,389,710	727
28	SURGERY	900,293,958	900,293,678	280
29	PSYCH	701,627,566	701,627,158	409
30	SUBSTANCE ABUSE	196,064,343	196,064,470	-127
31	DENTAL	215,555,502	215,555,601	-100
32	ADULT DAY CARE	13,411,369	13,411,372	-3
33	HOME CARE	230,424,383	230,424,349	34

Table 6.5 Reconciliation of National Costs between HERC Outpatient Costs and the Cost Distribution Report (CDR) by Cost Category Fiscal Year 2003

	CATEGORY	CDRCOST	HERC COST	DIFFERENCE
21	MEDICINE	3,140,693,408	3,140,693,095	313
22	DIALYSIS	107,506,033	107,505,987	46
23	ANCILLARY	230,698,190	230,698,175	16
24	REHABILITATION	339,748,281	339,748,326	-45
25	DIAGNOSTIC	958,505,125	958,505,110	14
28	SURGERY	1,016,970,792	1,016,970,569	223
29	PSYCH	738,193,695	738,193,992	-298
30	SUBSTANCE ABUSE	202,807,117	202,807,079	38
31	DENTAL	227,738,143	227,738,059	83
32	ADULT DAY CARE	13,689,782	13,689,781	0
33	HOME CARE	262,620,291	262,620,267	24

Table 6.6 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2000

STA3N	CDRCOST	HERC COST	DIFFERENCE
358	2,730,339	2,730,340	-1
402	33,354,795	33,354,801	-6
405	19,649,152	19,649,149	2
436	13,202,868	13,202,866	2
437	12,774,741	12,774,740	1
438	18,703,194	18,703,191	4
442	12,478,879	12,478,879	-1
452	22,348,257	22,348,262	-5
459	27,887,436	27,887,434	2
460	18,243,946	18,243,944	2
463	19,220,464	19,220,465	-1
501	58,474,210	58,474,223	-13
502	20,774,349	20,774,348	1
503	10,278,878	10,278,876	2
504	23,325,376	23,325,385	-9
506	41,602,735	41,602,736	-1
508	58,503,145	58,503,155	-9
509	51,843,160	51,843,160	1
512	72,548,385	72,548,397	-12
515	25,797,077	25,797,079	-2
516	68,270,170	68,270,154	16
517	12,236,867	12,236,867	0
518	17,823,166	17,823,163	2
519	13,235,817	13,235,818	-1
520	36,290,886	36,290,885	1
521	46,349,809	46,349,804	4
523	8,712,541	8,712,559	-18
526	48,623,273	48,623,289	-16
528	69,633,665	69,633,669	-4
529	15,300,358	15,300,357	1
531	17,090,287	17,090,289	-2
534	37,964,344	37,964,353	-10
537	81,512,085	81,512,103	-18
538	24,089,513	24,089,512	1
539	33,584,798	33,584,793	5
540	19,367,104	19,367,106	-2
541	85,712,790	85,712,780	10
542	13,127,405	13,127,402	3
543	26,543,320	26,543,318	2
544	37,529,251	37,529,261	-10
546	85,438,476	85,438,472	3
548	59,626,602	59,626,609	-8
549	85,583,428	85,583,464	-36
550	26,524,641	26,524,642	0
552	36,840,862	36,840,859	3
553	64,900,538	64,900,541	-3
554	37,589,002	37,589,001	0
556	33,651,818	33,651,825	-7

Table 6.6 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2000 (continued)

STA3N	CDRCOST	HERC COST	DIFFERENCE
557	15,457,994	15,457,998	-4
558	37,839,911	37,839,920	-10
561	74,207,641	74,207,654	-13
562	14,268,508	14,268,511	-3
564	20,953,372	20,953,369	3
565	20,858,230	20,858,229	2
567	10,938,964	10,938,968	-3
568	28,600,849	28,600,854	-5
570	23,245,056	23,245,058	-2
573	86,466,783	86,466,783	0
575	10,271,310	10,271,308	1
578	53,228,830	53,228,833	-4
580	82,938,118	82,938,119	-1
581	26,328,704	26,328,708	-4
583	59,917,932	59,917,939	-6
584	28,765,440	28,765,440	-1
585	14,596,305	14,596,303	2
586	41,306,929	41,306,925	4
589	37,429,494	37,429,494	0
590	27,695,661	27,695,658	3
593	41,460,704	41,460,709	-5
595	30,922,956	30,922,958	-2
596	35,157,965	35,157,970	-4
598	80,925,723	80,925,726	-3
600	59,453,720	59,453,722	-2
603	36,500,157	36,500,154	3
605	46,435,277	46,435,274	3
607	22,269,354	22,269,345	9
608	18,659,607	18,659,609	-2
609	29,747,901	29,747,902	-1
610	20,494,755	20,494,757	-3
612	72,984,135	72,984,141	-6
613	27,936,187	27,936,184	3
614	44,790,703	44,790,704	-2
618	72,277,483	72,277,471	12
619	36,875,510	36,875,507	3
620	33,788,300	33,788,299	1
621	39,015,663	39,015,663	0
622	23,767,962	23,767,966	-3
623	27,485,855	27,485,853	2
626	41,101,529	41,101,521	8
629	54,527,467	54,527,474	-7
630	22,876,736	22,876,722	14
631	15,881,693	15,881,691	1
632	40,243,350	40,243,350	0
635	42,133,530	42,133,526	4
636	77,331,551	77,331,536	16
637	21,288,285	21,288,279	6

Table 6.6 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N);Fiscal Year 2000 (continued)

STA3N	CDRCOST	HERC COST	DIFFERENCE
640	70,968,826	70,968,814	12
642	56,533,409	56,533,419	-10
644	58,071,708	58,071,720	-12
646	53,537,571	53,537,562	8
647	11,047,365	11,047,364	1
648	76,270,544	76,270,539	5
649	14,712,314	14,712,314	0
650	26,059,064	26,059,064	0
652	44,455,912	44,455,921	-9
653	15,930,219	15,930,217	2
654	20,740,487	20,740,495	-8
655	15,210,944	15,210,946	-2
656	20,777,263	20,777,268	-5
657	51,625,337	51,625,324	13
658	36,940,435	36,940,442	-7
659	25,699,876	25,699,868	8
660	35,082,179	35,082,179	1
662	53,045,524	53,045,528	-4
663	75,539,491	75,539,484	7
664	65,397,840	65,397,837	4
666	6,077,112	6,077,110	1
667	36,991,625	36,991,617	9
668	22,147,180	22,147,179	1
671	66,185,231	66,185,239	-8
672	72,523,384	72,523,385	-1
673	95,257,764	95,257,743	21
674	60,558,252	60,558,251	0
676	14,123,682	14,123,680	2
677	40,549,588	40,549,585	3
678	40,159,946	40,159,942	5
679	16,523,923	16,523,918	5
687	9,490,536	9,490,536	-1
688	57,003,482	57,003,484	-2
689	86,847,617	86,847,638	-22
691	24,039,138	24,039,123	15
692	3,969,462	3,969,461	0
693	24,933,923	24,933,912	11
695	57,350,971	57,350,963	8
756	18,275,724	18,275,719	4
757	18,236,015	18,236,018	-3

Table 6.7 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2001

STA3N	CDRCOST	HERC COST	DIFFERENCE
358	2,560,554	2,560,553	1
402	38,741,812	38,741,818	-6
405	20,734,394	20,734,395	-1
436	14,728,208	14,728,207	1
437	14,202,044	14,202,044	-1
438	20,322,885	20,322,887	-1
442	15,953,307	15,953,305	2
452	20,481,313	20,481,313	0
459	25,821,430	25,821,432	-2
460	19,856,705	19,856,709	-5
463	20,613,556	20,613,559	-3
501	72,564,495	72,564,500	-5
502	22,399,097	22,399,091	6
503	11,718,028	11,718,028	0
504	26,872,242	26,872,247	-5
506	45,842,330	45,842,335	-5
508	67,992,539	67,992,531	8
509	60,529,705	60,529,696	8
512	70,931,661	70,931,655	6
515	28,175,978	28,175,979	-1
516	80,568,431	80,568,432	-1
517	14,167,518	14,167,515	3
518	19,468,038	19,468,045	-7
519	15,339,315	15,339,312	3
520	40,563,765	40,563,761	4
521	50,285,096	50,285,094	3
523	130,280,240	130,280,239	1
526	50,715,988	50,715,979	9
528	195,894,335	195,894,341	-6
529	15,472,028	15,472,029	-1
531	20,471,806	20,471,814	-8
534	42,560,293	42,560,289	5
537	85,344,363	85,344,366	-2
538	25,823,461	25,823,460	0
539	36,869,807	36,869,819	-12
540	20,318,679	20,318,677	3
541	96,627,349	96,627,331	17
542	14,856,753	14,856,754	-2
544	44,804,689	44,804,679	10
546	84,283,106	84,283,103	3
548	69,542,790	69,542,786	5
549	103,374,378	103,374,393	-15
550	27,686,615	27,686,617	-2
552	44,279,412	44,279,406	7
553	66,064,240	66,064,234	6
554	41,836,561	41,836,563	-2
556	31,658,990	31,658,991	-1
557	18,237,537	18,237,542	-5

Table 6.7 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2001 (continued)

STA3N	CDRCOST	HERC COST	DIFFERENCE
558	41,170,815	41,170,814	1
561	78,684,246	78,684,252	-6
562	14,701,887	14,701,889	-2
564	23,256,854	23,256,851	3
565	22,497,813	22,497,816	-3
567	13,653,287	13,653,288	0
568	30,403,544	30,403,550	-6
570	26,399,168	26,399,164	5
573	98,471,762	98,471,771	-9
575	10,881,869	10,881,870	-1
578	63,389,975	63,389,970	5
580	88,891,613	88,891,615	-2
581	29,952,098	29,952,088	11
583	64,646,561	64,646,568	-8
585	15,955,979	15,955,977	2
586	44,997,228	44,997,227	1
589	108,768,230	108,768,256	-26
590	30,634,367	30,634,367	0
593	49,426,182	49,426,177	5
595	27,726,419	27,726,426	-6
596	39,758,624	39,758,618	7
598	86,251,906	86,251,912	-6
600	64,039,575	64,039,558	16
603	39,765,899	39,765,899	1
605	55,257,735	55,257,741	-7
607	31,365,499	31,365,498	1
608	18,459,109	18,459,112	-3
610	23,020,613	23,020,612	1
612	85,577,068	85,577,066	2
613	33,709,827	33,709,829	-2
614	49,015,949	49,015,945	4
618	93,831,426	93,831,441	-15
619	40,677,099	40,677,102	-3
620	33,510,445	33,510,450	-5
621	40,943,192	40,943,189	3
623	31,942,875	31,942,873	2
626	68,105,138	68,105,155	-17
629	58,679,401	58,679,397	4
630	119,553,821	119,553,810	11
631	17,165,518	17,165,520	-2
632	48,101,397	48,101,393	4
635	48,599,206	48,599,205	1
636	127,792,931	127,792,927	4
637	26,647,811	26,647,809	2
640	77,672,302	77,672,302	0
642	62,164,550	62,164,547	3
644	65,645,392	65,645,398	-6
646	57,587,623	57,587,610	13

Table 6.7 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2001 (continued)

STA3N	CDRCOST	HERC COST	DIFFERENCE
648	80,385,920	80,385,933	-13
649	16,408,684	16,408,684	0
650	30,523,557	30,523,553	4
652	46,759,447	46,759,460	-13
653	16,053,510	16,053,514	-4
654	26,569,160	26,569,156	4
655	17,155,015	17,155,019	-4
656	23,766,391	23,766,394	-4
657	98,780,194	98,780,219	-25
658	40,445,575	40,445,588	-13
659	30,316,799	30,316,793	6
660	36,551,100	36,551,095	5
662	57,685,573	57,685,588	-15
663	84,981,561	84,981,579	-18
664	77,168,746	77,168,764	-18
666	7,131,347	7,131,348	-1
667	41,666,471	41,666,479	-7
668	20,719,316	20,719,320	-3
671	72,534,058	72,534,035	23
672	81,888,579	81,888,618	-39
673	116,122,441	116,122,457	-15
674	68,086,439	68,086,428	11
676	15,228,602	15,228,608	-7
678	44,323,082	44,323,095	-13
679	19,343,371	19,343,369	2
687	10,825,352	10,825,353	-2
688	60,008,300	60,008,292	9
689	93,253,054	93,253,047	7
691	155,946,066	155,946,098	-32
692	3,929,039	3,929,038	1
693	29,696,442	29,696,438	5
695	62,233,585	62,233,585	0
756	22,560,598	22,560,595	3
757	19,984,875	19,984,876	-1

Table 6.8 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2002

STA3N	CDR COST	HERC COST	DIFFERENCE
358	1,479,514	1,479,512	2
402	42,018,633	42,018,638	-5
405	22,216,407	22,216,406	2
436	15,624,659	15,624,660	-1
437	13,321,953	13,321,949	4
438	23,650,201	23,650,199	1
442	18,181,388	18,181,388	0
459	28,849,875	28,849,875	1
460	22,099,043	22,099,041	2
463	22,012,487	22,012,486	0
501	76,196,376	76,196,397	-21
502	23,992,848	23,992,850	-2
503	12,736,067	12,736,073	-6
504	27,822,544	27,822,543	1
506	42,387,036	42,387,043	-8
508	70,763,428	70,763,420	8
509	63,477,594	63,477,594	0
512	77,814,658	77,814,644	13
515	26,345,378	26,345,381	-3
516	85,014,933	85,014,952	-18
517	15,464,252	15,464,250	3
518	21,982,350	21,982,341	9
519	18,602,422	18,602,420	2
520	45,422,925	45,422,928	-3
521	51,423,675	51,423,662	12
523	107,891,983	107,891,985	-2
526	52,040,764	52,040,766	-2
528	221,535,057	221,535,043	14
529	16,930,193	16,930,192	1
531	20,108,914	20,108,912	2
534	49,797,518	49,797,524	-5
537	84,673,201	84,673,196	4
538	27,813,559	27,813,564	-5
539	48,317,544	48,317,550	-7
540	22,978,572	22,978,569	3
540	22,978,572	22,978,569	3
541	102,761,588	102,761,588	0
542	16,463,025	16,463,017	8
544	56,562,325	56,562,316	9
546	88,505,758	88,505,768	-10
548	77,417,934	77,417,936	-2
549	107,571,700	107,571,723	-23
550	26,256,239	26,256,234	4
552	45,651,618	45,651,622	-4
553	64,412,160	64,412,169	-9
554	58,623,508	58,623,522	-14
556	32,274,923	32,274,919	4

Table 6.8 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2002 (continued)

STA3N	CDR COST	HERC COST	DIFFERENCE
557	20,026,666	20,026,661	5
558	43,626,212	43,626,202	9
561	86,170,038	86,170,027	11
562	16,732,503	16,732,502	0
564	27,468,088	27,468,083	5
565	26,174,947	26,174,946	1
568	32,858,831	32,858,835	-5
570	26,999,109	26,999,113	-4
573	107,352,768	107,352,732	36
575	11,204,880	11,204,882	-3
578	68,865,941	68,865,951	-11
580	92,909,742	92,909,767	-25
581	33,384,316	33,384,321	-6
583	67,140,409	67,140,396	13
585	16,988,778	16,988,778	-1
586	49,817,483	49,817,482	1
589	144,260,957	144,260,967	-10
590	32,135,782	32,135,791	-10
593	56,524,738	56,524,737	1
595	31,431,581	31,431,577	3
596	43,295,461	43,295,459	2
598	91,839,312	91,839,307	5
600	65,654,493	65,654,506	-13
603	43,838,599	43,838,587	12
605	60,795,466	60,795,472	-6
607	29,737,701	29,737,702	-1
608	19,650,086	19,650,090	-3
610	25,623,681	25,623,686	-5
612	90,049,542	90,049,524	18
613	36,542,004	36,542,003	1
614	52,381,996	52,381,990	6
618	98,180,700	98,180,687	13
619	46,344,374	46,344,367	7
620	30,939,159	30,939,167	-7
621	45,698,902	45,698,895	7
623	33,508,409	33,508,412	-3
626	74,220,740	74,220,764	-25
629	60,205,537	60,205,537	0
630	135,939,776	135,939,779	-2
631	16,949,304	16,949,307	-3
632	50,163,655	50,163,661	-6
635	50,966,559	50,966,566	-7
636	144,433,712	144,433,713	-1
637	29,831,900	29,831,900	0
621	45,698,902	45,698,895	7
623	33,508,409	33,508,412	-3
626	74,220,740	74,220,764	-25
629	60,205,537	60,205,537	0

Table 6.8 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2002 (continued)

STA3N	CDR COST	HERC COST	DIFFERENCE
630	135,939,776	135,939,779	-2
631	16,949,304	16,949,307	-3
632	50,163,655	50,163,661	-6
635	50,966,559	50,966,566	-7
636	144,433,712	144,433,713	-1
637	29,831,900	29,831,900	0
640	83,492,661	83,492,677	-16
642	65,742,509	65,742,508	1
644	65,311,587	65,311,586	1
646	63,289,252	63,289,256	-5
648	84,701,258	84,701,265	-7
649	20,153,831	20,153,830	1
650	31,539,851	31,539,856	-5
652	47,837,260	47,837,271	-11
653	16,056,530	16,056,528	2
654	29,710,544	29,710,540	4
655	18,593,032	18,593,036	-4
656	26,878,253	26,878,253	0
657	96,438,482	96,438,495	-13
658	41,372,516	41,372,527	-10
659	33,518,066	33,518,069	-3
660	42,803,209	42,803,205	4
662	65,168,780	65,168,787	-6
663	90,953,950	90,953,938	12
664	80,516,870	80,516,864	6
666	8,649,950	8,649,951	-1
667	44,377,356	44,377,367	-11
668	21,639,553	21,639,557	-4
671	74,254,696	74,254,688	7
672	83,743,719	83,743,727	-8
673	125,466,048	125,466,049	-1
674	75,622,984	75,622,980	4
676	16,933,005	16,933,011	-6
678	51,917,635	51,917,631	5
679	19,825,290	19,825,286	3
687	12,327,592	12,327,589	3
688	63,124,255	63,124,273	-18
689	96,685,087	96,685,076	11
691	155,761,544	155,761,537	6
692	5,623,460	5,623,462	-3
693	31,653,214	31,653,207	7
695	69,017,144	69,017,152	-8
756	24,963,971	24,963,977	-6
757	21,386,908	21,386,906	2

Table 6.9 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2003

STA3N	CDR COST	HERC COST	DIFFERENCE
358	3,156,814	3,156,814	0
402	43,466,457	43,466,464	-7
405	24,400,720	24,400,722	-2
436	19,986,527	19,986,526	1
437	14,645,771	14,645,772	-1
438	24,349,361	24,349,359	3
442	19,411,746	19,411,747	-2
459	28,815,213	28,815,215	-2
460	24,380,558	24,380,562	-4
463	23,515,673	23,515,671	2
501	79,078,733	79,078,721	11
502	27,578,629	27,578,625	4
503	15,022,009	15,022,008	1
504	32,877,972	32,877,978	-6
506	47,667,579	47,667,572	7
508	77,656,165	77,656,157	8
509	73,882,825	73,882,832	-7
512	83,384,033	83,384,025	8
515	32,002,343	32,002,346	-3
516	95,318,946	95,318,952	-6
517	18,534,030	18,534,031	0
518	21,783,714	21,783,716	-3
519	23,792,600	23,792,599	2
520	50,162,655	50,162,652	3
521	57,961,551	57,961,559	-8
523	111,526,112	111,526,138	-25
526	60,412,593	60,412,607	-14
528	232,446,084	232,446,046	39
529	20,722,290	20,722,291	-1
531	23,241,351	23,241,351	1
534	52,966,092	52,966,084	7
537	86,860,657	86,860,658	0
538	30,928,035	30,928,036	-1
539	51,195,083	51,195,070	12
540	24,844,849	24,844,853	-5
541	123,248,370	123,248,376	-7
542	19,495,086	19,495,078	7
544	53,481,867	53,481,888	-21
546	100,531,305	100,531,295	9
548	77,931,069	77,931,056	12
549	116,155,143	116,155,153	-10
550	28,589,092	28,589,098	-6
552	55,718,290	55,718,286	4
553	73,515,746	73,515,758	-12
554	64,892,172	64,892,165	7
556	43,134,331	43,134,337	-5

557	17,107,652	17,107,654	-2

Table 6.9 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2003 (continued)

STA3N	CDR COST	HERC COST	DIFFERENCE
558	48,536,211	48,536,203	8
561	91,987,657	91,987,661	-4
562	21,782,574	21,782,572	2
564	32,209,984	32,209,984	0
565	32,051,790	32,051,786	4
568	34,548,049	34,548,050	-1
570	30,660,236	30,660,232	4
573	116,253,058	116,253,049	9
575	11,928,588	11,928,587	2
578	77,673,081	77,673,098	-18
580	106,220,541	106,220,532	9
581	38,217,631	38,217,635	-4
583	68,715,835	68,715,843	-8
585	18,897,639	18,897,642	-3
586	56,557,153	56,557,157	-5
589	164,525,119	164,525,123	-4
590	37,765,113	37,765,114	-1
593	85,118,633	85,118,642	-8
595	36,450,293	36,450,289	3
596	46,614,554	46,614,563	-8
598	102,570,270	102,570,249	21
600	69,939,420	69,939,427	-6
603	47,608,796	47,608,797	-1
605	69,274,653	69,274,636	17
607	35,756,252	35,756,249	3
608	21,116,902	21,116,902	0
610	28,208,782	28,208,774	8
612	109,938,273	109,938,257	16
613	41,660,551	41,660,553	-2
614	57,596,015	57,596,027	-12
618	102,258,229	102,258,227	2
619	51,725,916	51,725,909	7
620	36,718,694	36,718,695	-1
621	49,615,515	49,615,498	17
623	36,517,597	36,517,588	9
626	74,836,603	74,836,610	-8
629	63,689,629	63,689,627	2
630	140,776,998	140,777,004	-6
631	17,426,107	17,426,111	-3
632	58,756,688	58,756,686	2
635	57,160,660	57,160,659	1
636	151,752,356	151,752,371	-15
637	31,030,823	31,030,819	4
640	91,197,753	91,197,760	-7
642	68,415,032	68,415,035	-3
644	74,088,795	74,088,791	4
646	81,563,551	81,563,559	-8

648	95,067,940	95,067,923	18

Table 6.9 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) Files by Station (STA3N); Fiscal Year 2003 (continued)

STA3N	CDR COST	HERC COST	DIFFERENCE
649	19,747,349	19,747,347	2
650	34,608,615	34,608,615	-1
652	55,342,969	55,342,963	7
653	16,323,605	16,323,600	5
654	32,629,309	32,629,307	1
655	20,113,596	20,113,601	-4
656	28,879,578	28,879,577	2
657	103,842,649	103,842,651	-1
658	44,952,169	44,952,166	3
659	38,445,939	38,445,939	0
660	45,064,946	45,064,942	4
662	70,253,056	70,253,052	4
663	99,812,144	99,812,162	-18
664	89,732,102	89,732,110	-9
666	10,078,487	10,078,488	-1
667	49,013,523	49,013,528	-5
668	23,289,079	23,289,072	7
671	89,216,320	89,216,313	7
672	85,184,533	85,184,549	-16
673	139,622,138	139,622,146	-9
674	85,950,715	85,950,717	-2
676	20,460,493	20,460,487	6
678	56,741,181	56,741,173	7
679	19,710,389	19,710,390	-1
687	12,961,626	12,961,625	1
688	74,096,247	74,096,255	-8
689	102,417,155	102,417,155	0
691	145,590,636	145,590,613	23
692	7,868,551	7,868,552	-1
693	34,103,619	34,103,610	9
695	76,073,546	76,073,533	13
756	26,895,390	26,895,388	2
757	25,390,771	25,390,772	-1

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